

AUGUST – SEPTEMBER 2017

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# Australian Orchid Review



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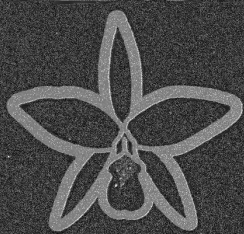
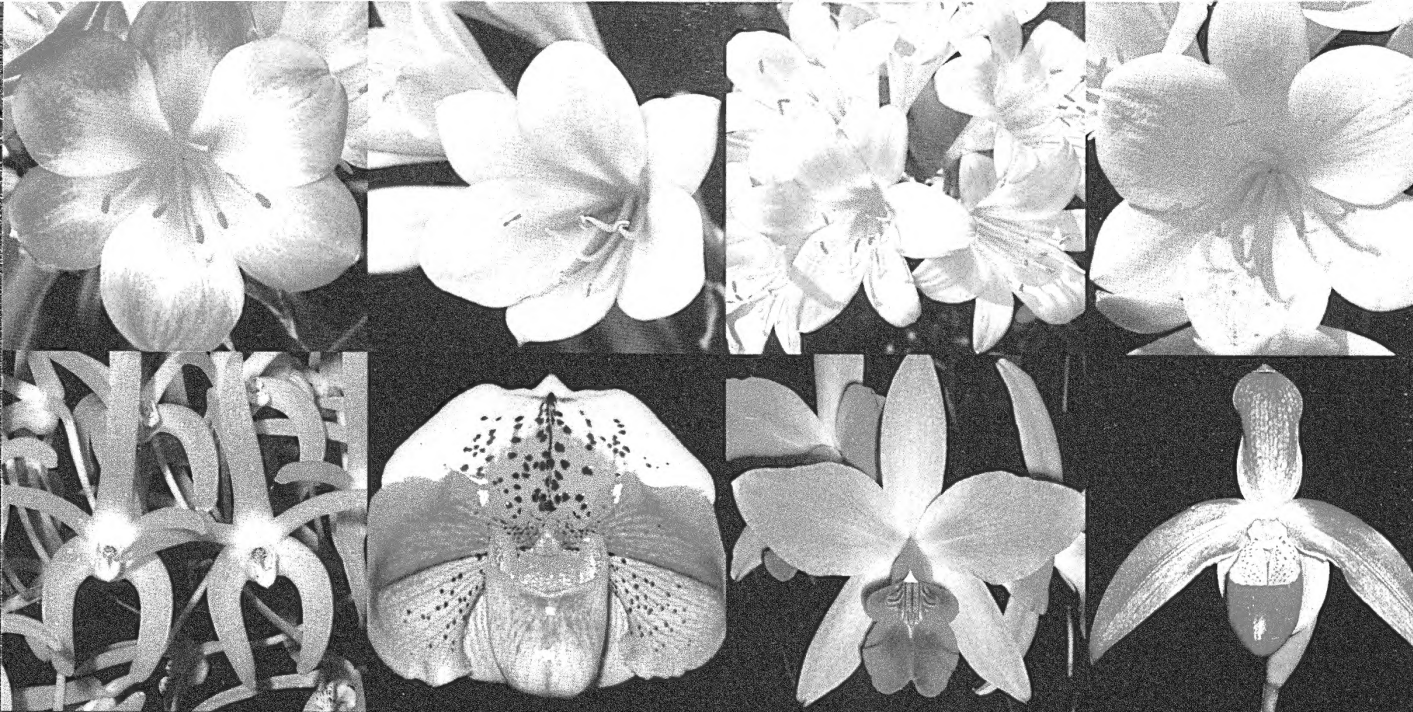
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## From the Editor's Desk

*Cymbidium suave* is one of our wonderful indigenous species that essentially has proved to be difficult to hybridise beyond one or two generations. In this issue Alan Stephenson discusses this widespread and frequently seen species that is also often found around suburbia. Alan also documents its preferred host species and gives us examples in variation and plant size.

Scott Barrie from Barrita Orchids discusses the quality of colour in pink-flowering *Cymbidium* hybrids. The gardening public and impulse buyers are looking for eye-catching colours foremost when selecting flowering orchids to buy, with shape (most orchid judge's preference) taking a further back seat. Sam Cowie discusses *Goodaleara* Pacific Truffle 'Surrogate Star' in this issue's Orchid Road Test.

Growing Orchids in Pots seems a bit of a boring title for an article. But there is much more to pots than meets the eye. The correct selection of a pot can be paramount to the potential success of the orchid to be cultivated. They come in almost all shapes and sizes, with most of the types and styles available in Australia discussed here. It's always sound advice to keep a varied stack of pots on hand before it's repotting time.

As always, we proudly have ongoing content on the latest in Australian native orchids. Three individual and distinctive Australian epiphytic species are discussed in detail, from three different authors. Essays on *Dendrobium monophyllum* (David Banks), *Dendrobium tetragonum* (Alan Stephenson) and *Liparis coelogyneoides* (Gerry Walsh) are presented with original photographs. We also present a number of new species described here for the first time, with new taxa from the genera *Plumatichilos*, *Diplodium* and *Speculantha*.

I am saddened to note the passing of Mick Keith on 30th June 2017 at the age of 84, from Townsville, Queensland. Mick was the founder of the iconic Keith's Nursery with his wife and later their sons. They sold many interesting species and hybrids over many decades (including some wonderful gems from Madagascar). As a couple, they became well known representing North Queensland at orchid shows and conferences throughout Australia and overseas. He was a fine and friendly gentleman who was Patron of Townsville Orchid Society for many years. Our sincere condolences to his wife Thelma, sons Michael and Larry, their spouses, grandchildren and extended families.

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AUGUST – SEPTEMBER 2017  
Volume 82 – No.4

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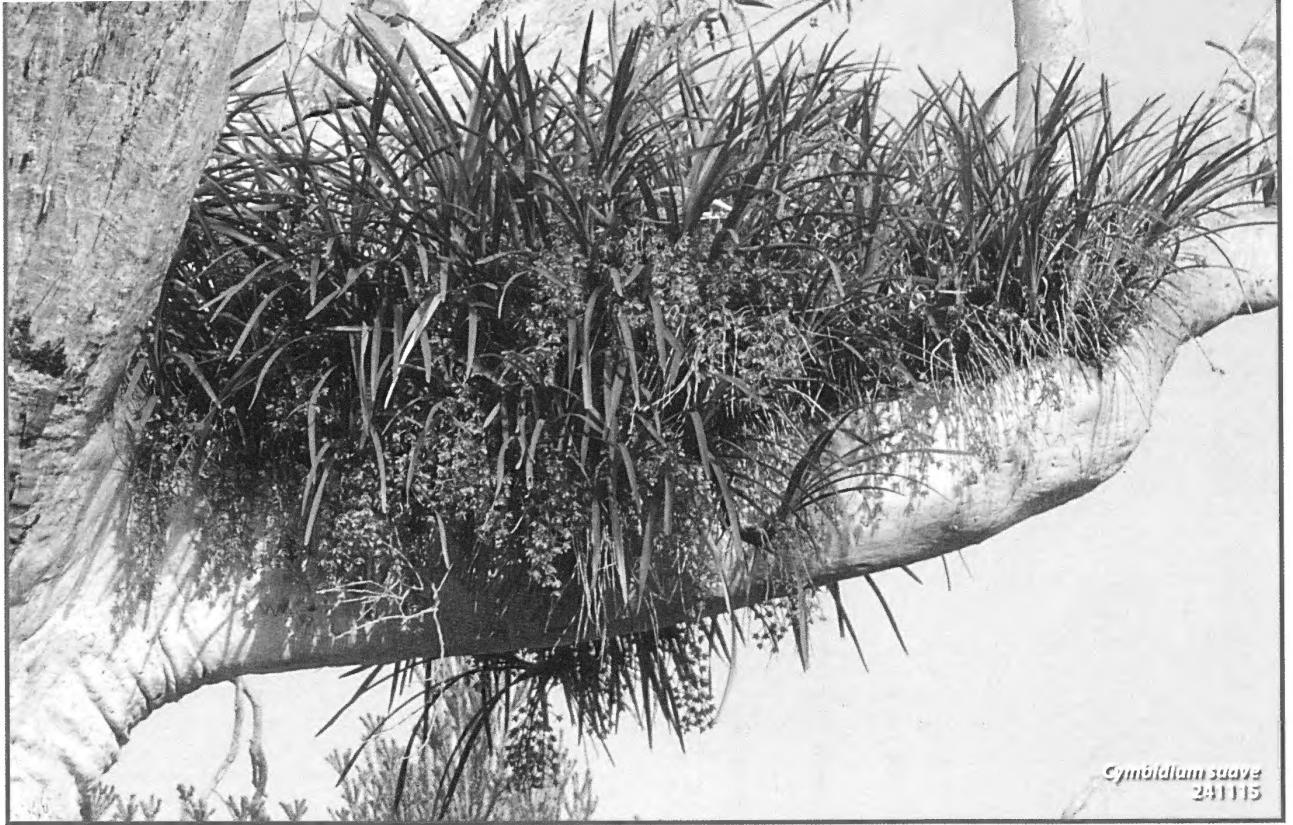


## Cover Shot

Modern *Cymbidiums* in the North Shore Orchid Society display at the St Ives Orchid Fair, August 2016.

Photo: © David Banks.





# *Cymbidium suave* - the biggest and the best?

Text and photos by Alan W. Stephenson

*Cymbidium suave* is an extremely common species along much of the Australian east coast, although I prefer the term "prolific" as common indicates a dismissive attitude. Said to grow, according to the major texts, between Cooktown (Big Tableland) North Queensland and Bega, in southern New South Wales. But I know of plants along the Princes Highway at Merimbula, another 25 kilometres further south than Bega but perhaps I am being too rigid in my definition of distance.

The orchid is rarely out of eyeshot in the Shoalhaven Region when I venture into the bush. I treat it with some regard, partly as I am constantly on the watch for a variation in flower colour and partly due to the size some plants can attain and a large plant in flower is something to behold.

In 2013 I was alerted to a large plant in the general area of Vincentia, although when I learned of this plant it was too late to see it in flower so 2014 was my first exposure to this specimen. At that time I took a few photos but returned in early December 2015 for a further examination of the plant. The plant is approximately 2.5 metres long and spreads across the limb to be about one metre and it is situated in a large

Scribbly Gum (*Eucalyptus haemastoma*) on a branch parallel with the ground but between 4-5m above ground level. This made close-up photos difficult as it is not the place where I would like to be seen carrying a ladder.

I have seen numerous other large plants between the Fitzroy Falls Visitor Centre and Pebbly Beach and the distance between these would be 150km by road. Most large plants emanate from the hollow in the main trunk of a tree, and assume a rounded shape but what makes this plant so noticeable is the lateral growth. When driving or walking along some of the countless fire trails in the Shoalhaven *Cymbidium suave* is a constant eye level occurrence in the stumps of trees which have been logged or those which have fallen, either through natural causes or due to a so called "cool hazard reduction burn". Recently, at another site I rescued plants from a tree which had suffered from such a burn and nine plants found a new home unlike several adjacent plants which were burned beyond help.

The rotting heartwood of the host tree provides the perfect conditions for *Cymbidium suave* per medium of regular moisture, fungal requirements and if the hollow is high in the





*Cymbidium suave*  
031114

tree an extremely deep recess into which its roots can travel for several metres without any resistance; in other words a perfect host. Flower numbers can vary on an inflorescence and raceme numbers naturally depend on plant maturity but it is not unusual for many flowers to be pollinated and for capsules to form; however the success rate after seed dispersal is infinitely small.

*Cymbidium suave* is not fussy with its choice of a host and the range of trees runs from the previously mentioned Scribbly Gum to Spotted Gum (*Eucalyptus maculata*), Blackbutt (*Eucalyptus pilularis*), Red Bloodwood (*Eucalyptus gummifera*), Grey Ironbark (*Eucalyptus paniculata*), Water Gum (*Tristania laurina*), a well known paperbark tree *Melaleuca quinquenervia*, Coast Banksia (*Banksia integrifolia*), Old Man Banksia (*Banksia serrata*), She-oak (*Casuarina* sp.) and possibly several others I either have not seen or am unable to identify. Another host is a tree once named *Syncarpia glomulifera*, (Turpentine Tree) but has been listed under several other names for some time. Along with a friend I encountered a plant which when first noticed seemed to be sited at the base of a tree but in fact was on a sandstone rock shelf amongst leaf litter close to the tree.

While not fussy about a habitat, *Cymbidium suave* does not like disturbance and this should be a lesson for those who

may seek out a plant because plants are available via some orchid nurseries and these are the plants which should be chosen.

The area in which the large *Cymbidium suave* occurs was once to be a 1240 block residential development, albeit without official development approval and as such it was saved by a decision made several years ago by the only Environment Minister worth his salt I have encountered in many years. The land is home to 12 threatened species of flora and fauna of national significance with three being orchids. The land which borders the existing Booderee National Park and Jervis Bay now looks certain to be added to the National Park in the near future.

Another area of habitat is the same distance from my home but in a different direction and these plants are mainly seedlings but again they are prolific in that 13 of them are in the one section of a fallen tree which is about eight metres long. Of two other immediately adjacent trees one had nine clustered seedlings and another has six which provides 28 plants within 15 metres. Unfortunately only a small proportion of these smaller plants are sufficiently mature to produce a flower but as they are 10 metres off the road, access is easy and I can wait.

This will be none too soon as significant damage has occurred due to illegal trail bike riding along with some 4WD hoons. The land has no formed roads and erosion of existing tracks is obvious. Hopefully soon a fence will be erected or tracks blocked to prevent such access and activities and perhaps over time the land will have a chance to recover, as some of the track erosion is greater than one metre deep. When this happens, I and many others will be able to rest a little easier in the knowledge a worthwhile habitat for many endangered species is secure. ■

Alan W. Stephenson  
Nowra, NSW  
Email: [affine@tpg.com.au](mailto:affine@tpg.com.au)

*Cymbidium suave*  
- young seedlings  
120515



*Cymbidium suave*  
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9 plants in log  
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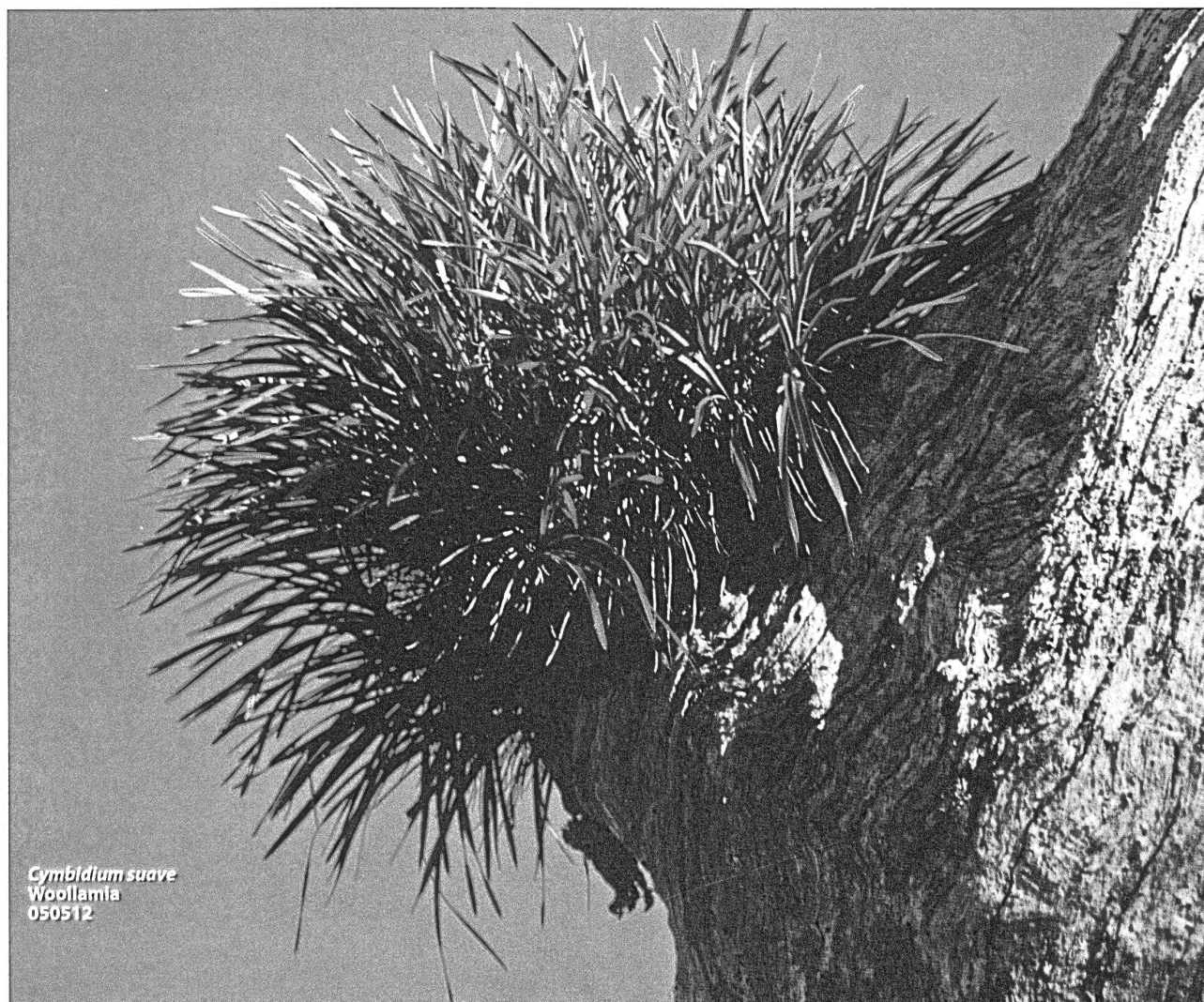
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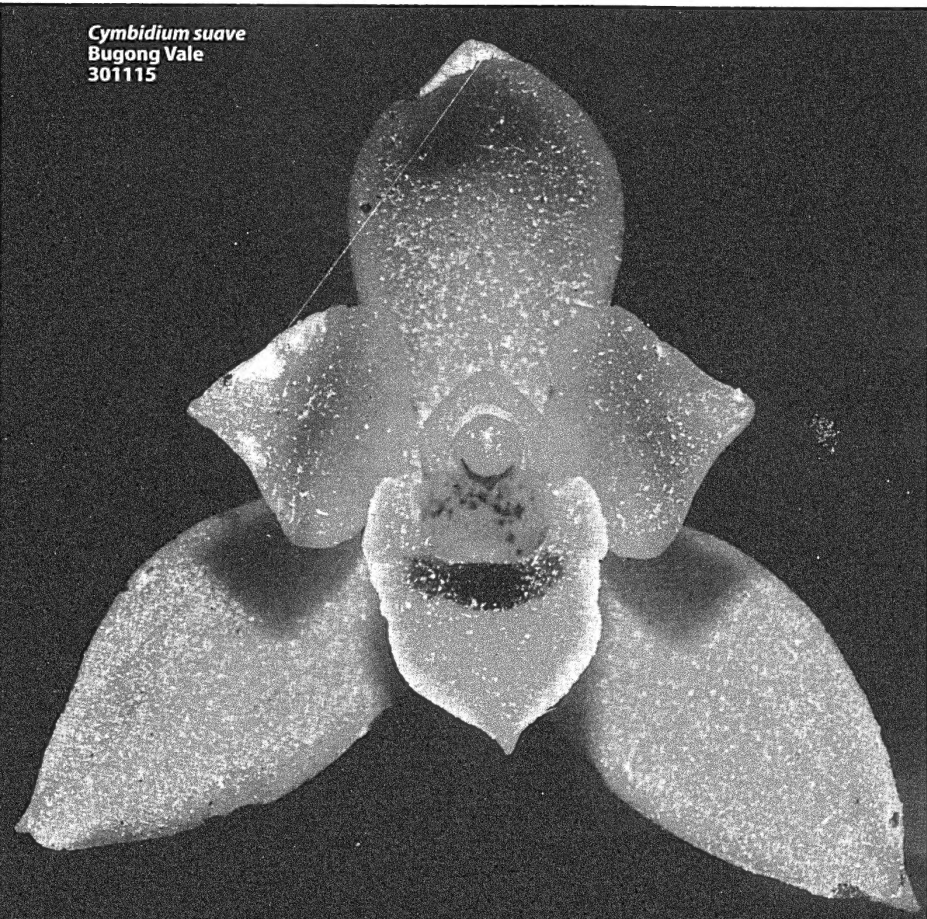


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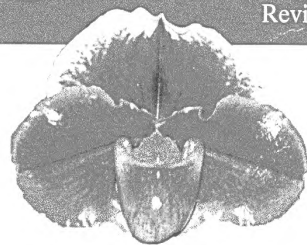


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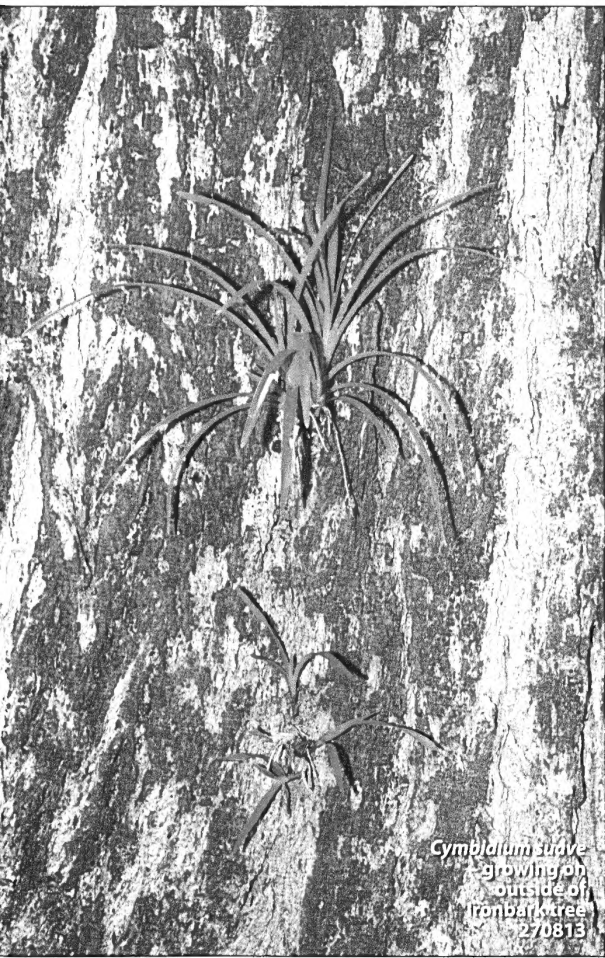
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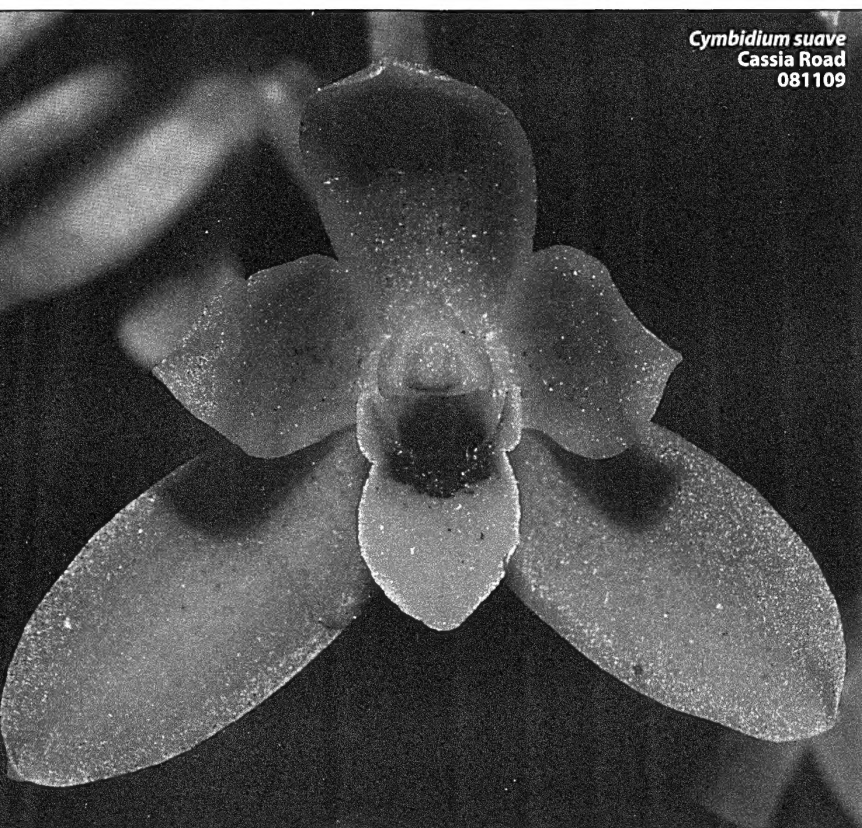
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*Cymbidium suave*  
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221116





# Growing Orchids in Pots

by David Banks

Generally in cultivation we try to replicate the various environmental requirements orchids would receive in the wild. They grow on trees, rocks or terrestrially in the ground, or thick leaf litter. But I must say, I've never seen an orchid in the wild growing in a pot! However, for convenience and practicality most orchids are grown in pots. All terrestrial and most epiphytic orchids are grown in pots, which accommodate the plants root system whilst also being able to retain moisture. They are easily transported, displayed, acquired and are relatively inexpensive. Another bonus is that they are reusable after cleaning in a mild bleach solution.

There is a wide range of pots available. It is most important that the pots be sturdy and incorporate generous drainage holes. Today, plastic pots are most frequently used, coming in a variety of sizes, styles, colours and depths. For many years now businesses, such as The Orchid Pot Company at Port Macquarie, specialise in the production of high quality orchid pots and incorporate a sturdy and durable black plastic that does not deteriorate in sunlight. I've had some of these pots for over two decades. They have created a range of pots designed for specific genera, coupled with excellent drainage facilities.

Personally, I detest square pots, I'm sure roots don't enjoy going off at right angles all the time (they would much rather go round in circles!). I only use black or dark bottle green coloured plastic pots, with a preference for black, which are less inclined to deteriorate in sunlight. Brightly coloured pots look great for marketing annuals and other garden plants, but to me look a bit tacky in the orchid collection. Many orchid growers in Asia and North America use clear pots with success, especially for *Phalaenopsis*. This way the root system can be monitored without disturbing the plants. There is also a strong argument that many larger vandaceous orchids partially photosynthesise through their roots (note how green the roots become after watering, yet are whitish-gray when dry). Care must be taken not to subject the side of these pots to direct sunlight, to avoid overheating the roots. Algae can also become a problem on the sides of the pot. These are often now termed "*Phalaenopsis* pots".

If it is possible, try to keep plants with the same pot size together on the bench. Not only does it look tidier, but the pots should dry out at the same time (if in the same mix) so they can safely be watered in a block.

Make sure you keep weeds out of pots and the floor of your orchid houses. If left to seed, they will go right through your collection. Pull them out by hand. A pair of tweezers is handy for removing stubborn weeds with taproots. Weeds under the bench may be carefully sprayed, in still conditions, with a herbicide. You are left with the decision of squirting the ferns or not! Beware of weeds in hanging baskets, as these can disperse their seeds quite a distance from above. If you are diligent, it is possible to eliminate weeds from the orchid collection.

## Terracotta Pots

Traditional terracotta pots were the nursery standard, decades ago, before the invention and mass production of suitable plastic containers. They were deep pots that required "crocking" (placing broken pieces of terracotta up to a third of the height of the pot to assist drainage). Today, there would be few orchid growers that "crock" their pots. Terracotta pots are expensive, heavy and invariably have poor and small drainage holes. These often need to be enlarged with a few gentle blows with a hammer on the edge of the hole. It takes a while (and a few sacrificed pots!) to master it. Another disadvantage is that many orchids with thick roots (such as cattleyas and vandaceous orchids) cling tightly to the inside and outside of the pot, and the roots are invariably damaged when removed. Drying out the plant and its potting medium over a few days, so that the roots and mix slightly contract, makes the job of getting the plant out much easier, minimising damage to the root system.

However, there are still a lot of orchids that enjoy life in today's terracotta pots. It must be remembered that orchids in terracotta pots will dry out much faster than their counterparts in plastic containers. Some of the squat designs, coupled with round or slotted drainage holes on the sides of the pot have proved popular with most medium sized monopodial orchids, many of the rock-growing *Laelia* species, *Vanda* and "hardcane" dendrobiums. You will find the roots will run all over both surfaces of the pot and obviously through the drainage holes. Many orchids are happy to spend their lives undisturbed, simply clambering over the container. That is fine, until the mix deteriorates. There are two main ways I deal with such plants. The first option is to hold the pot and tip the plant upside down, using your fingers to dislodge any stray compost. The second involves using a jet of water to wash away the old material, but not too strong as to dislodge or damage the roots. New potting medium (generally bark) is replaced into the cavity that has been left. This is best done whilst the plant is in active growth, or early spring. You will find orchids treated this way will respond with renewed vigour.

I have also had success using small (50mm) squat terracotta pots for a range of higher altitude miniature species, including members of the *Pleurothallis* family and many *Dendrobium* species from New Guinea. The plants are firstly potted in Sphagnum moss, then that pot is half-buried into a plastic 100mm pot of the same moss. It prevents the small pots drying out quickly and ensures even moisture content.

## Standard Plastic Pots

There are still many orchids (many being terrestrial or semi-terrestrial) that have an extensive or deep root system that prefers standard sized pots. The large flowered or "standard" cymbidiums, plus many of the "intermediate" types certainly prefer the deeper pots. However most growers and nurseries are using the squat style pots for "miniature" cymbidiums and some of the less vigorous "intermediates". There are other types of orchids that favour the deeper pots. Many of the evergreen terrestrials including *Calanthe triplicata*, *Neobenthamia gracilis*, *Phaius tankervilleae*, *Sobralia* and *Thunia* enjoy the extra room for their roots. Some of the very tall growing dendrobiums (such as *D. fimbriatum*, *D. moschatum* and *D. pulchellum*) also perform with enhanced vigour. Many growers add a handful of large pebbles to the bottom of the pots of tall growing plants, to boost its weight and stability.

Over the past decade, most successful growers of "softcane" dendrobiums have discarded small, squat pots in favour of the larger standard pots. Larger pots have led to larger plants with thicker pseudobulbs and in late spring many more flowers with larger blooms. Similar plants in small pots, starved of water during winter produce flowers half the size with poor texture and lasting qualities.

## Squat Plastic Pots

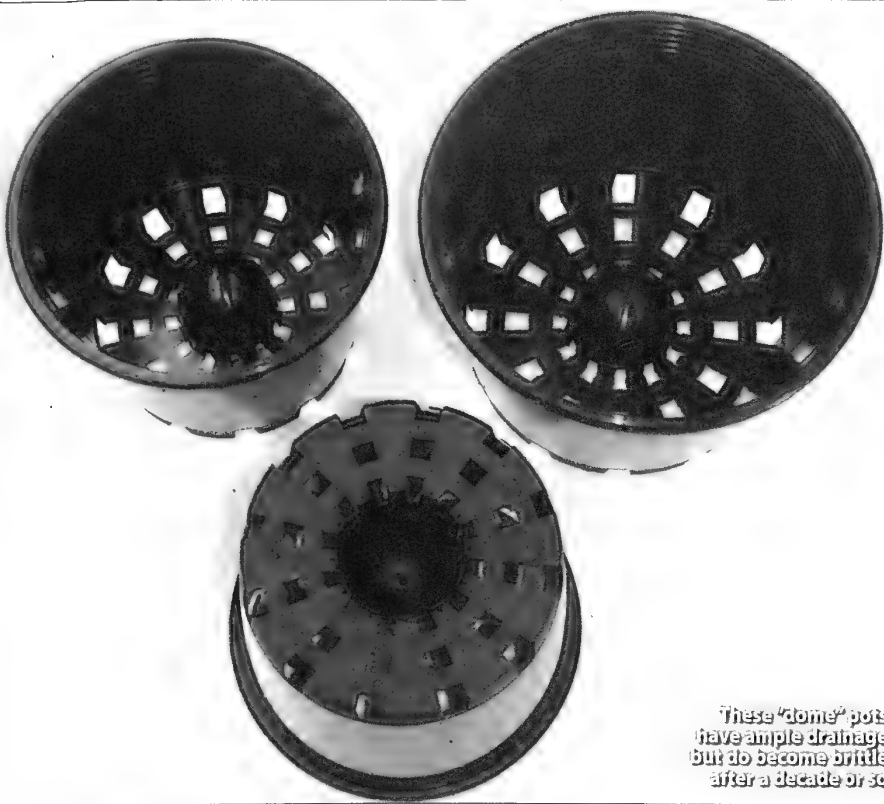
These are arguably the most popular pots used for the cultivation of most orchids. Generally they are about two-thirds the height of standard pots and their diameter exceeds their depth. The advent of squat pots has made redundant the old practice of "crocking" pots. One manufacturer incorporated a "dome" at the centre/bottom of the pot. This was to assist drainage, use slightly less mix, but also provided a home under the pot for critters like slugs, snails and spiders.

Most epiphytic and lithophytic orchids run their roots along tree branches and rock surfaces. When confined to pots, the initial roots often descend at a 45° angle, and then are forced deeper into the pot once they hit the sides. Some will then leave the pot via the drainage holes, whilst most will spiral around the inside of the pot. Most of the active root growth will be confined to the top 10cm of the potting medium.

When repotting many oncidiums, cattleyas and coelogynes, you will notice that the roots have spiralled many times, and they will be quite long, yet there won't be much active root growth in the centre of the pot. This is quite normal, and is a pattern mirrored by many orchid genera.







These "dome" pots have ample drainage but do become brittle after a decade or so



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## Net Pots

Net pots are based on the plastic filters used in swimming pools. They are sturdy plastic "pots" with a fine lattice-like network of tiny square holes, only a few millimetres in diameter. Because of the small size of the holes, these pots are unsuitable for stanhopeas. I only use them for suspended plants, as the small holes also provide access to garlic snails and other nasties that will crawl between the spaces to eat the root tips.

The main advantage of net pots is that they provide excellent drainage and aeration around the root system. They are also useful for many *Dracula* species and hybrids, which send their descending wire-like inflorescences through the small holes. The downside comes at repotting time. Often the roots will meander in and out of the pot, making it impossible to complete the task without damaging some roots. Yet there are some genera that would stay in this type of container forever. The genus *Dockrillia* has members with thick and tough roots, which will envelope the pot in a couple of seasons. These can be left unattended for many years, even after the potting media has deteriorated! Whilst the orchid starts "in" the pot, it will soon cascade over the edge, often sending out aerial roots along the way.

A similar pot are the (often square) plastic *Vanda* baskets that primarily are imported from Thailand. I still much prefer the round versions and they are great for larger vandaceous orchids with thick and vigorous root systems.

## "Waterwell" Pots

In many ways these are direct opposite to the use of the net pots discussed above. These pots hold a small reservoir of water, and were designed primarily as a substitute for hanging baskets, for moisture loving plants such as ferns and other "indoor" foliage plants. Reko started making these about twenty years ago in 200mm pot size, and later introduced a 300mm one. Quite recently, Garden City Plastics released an inexpensive 155mm squat waterwise version, which holds 1.3 litres of potting medium.

I started using these pots over two decades ago for my carnivorous climbing pitcher plants – *Nepenthes*. I've also used them for hoyas and a range of moisture loving bromeliads and tassel ferns.

For many years, the thought of growing orchids "sitting in water" was frowned upon! In the late 1990's I saw many orchid growers in the USA growing *Phragmipediums* in the home, sitting in shallow saucers of water. Best cultivated examples I had seen. Today most growers of these



Net pots have limited use, but do find a niche in specialist collections



155mm squat waterwise pot, recently released by Garden City Plastics

South American slipper orchids employ such cultivation techniques to the point that it has now become the norm over the past twenty years here.

I also saw a number of commercial *Cymbidium* nurseries in Victoria sitting their plants in saucers of water throughout the warmer months of the year. Again this has been successful, producing outstanding growth and subsequent blooming. The essential key is ensuring not placing the plants too close together.

Today, such pots have become fashionable again with a number of hobbyist growers, who are experimenting with a

wide range of orchid genera. My word of caution goes to those who grow out of doors or under shade cloth. Be careful when you get sustained periods of wet weather (especially in winter), otherwise fungal and bacterial problems could take hold, at the quick expense of the orchid. Personally, I would not recommend this to orchid genera that have a distinct and strict dormant period – such as cattleyas, catasetums and most of the Asiatic dendrobiums. Remember I'm talking about long term success, not plants that have grown well this way for only a couple of seasons.

It's best to keep such orchids under a solid roof, so that watering can be controlled. It's a lot easier to quickly water an orchid to rehydrate it than sitting around for days in bleak weather waiting for the mix to dry out.

A number of orchid genera have proved very amenable to this kind of culture, which gives the plant an artificial water table that enables the mix to stay damp just that little bit longer. Maybe staying moister for only a day or two in midsummer, or a few days to a week during the cooler winter months.

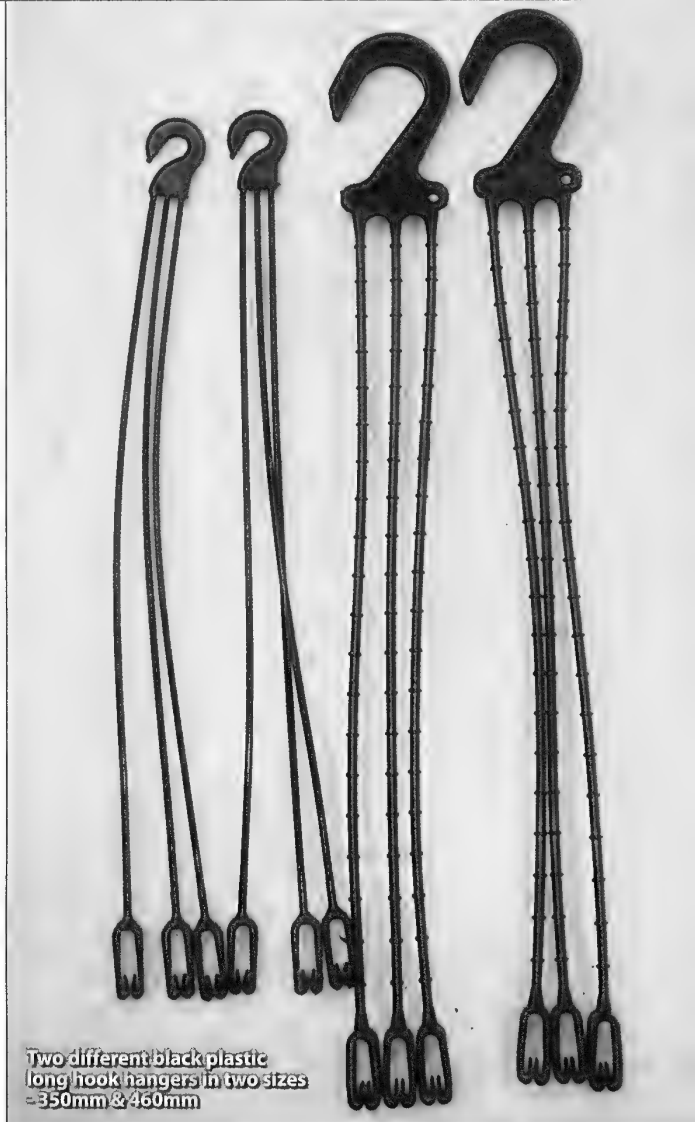
Some growers have a layer of perlite or river gravel, in the "water holding" part of the pot, where most just incorporate their favourite potting medium and rely on capillary action. I've tried all three methods and honestly haven't noticed any difference.

I have had very pleasing results using waterwell pots for genera including *Anguloa*, *Brassia*, *Coeloglyne*, *Dendrochilum*, *Lycaste*, *Maxillaria*, *Pholidota* and *Zygopetalum*.

## Hangers

The use of plastic 3 or 4 clasp/hook hangers is an inexpensive way to turn normal pots into "hanging pots". Most pots have a distinct rim around the pot to facilitate the clasp of the hanger that should "snap" into place. They come in two main grades/sizes (350mm & 460mm) with the more expensive and sturdier ones obviously the right choice for heavier pots. Black is the best colour to get, as simply they last the longest and the manufacturers state that these are ultraviolet stabilised. I have found many of these will last at least a decade before becoming increasingly brittle around the hook.

Wire hangers are also very useful and last a lifetime, either as "twin hooks" for hanging directly on vertical mesh frames, or single drop hangers to be hung off barbed wire, sturdy linked chain or similar. Tinonee Orchid Nursery seems to be the main place that stocks these outstanding wire hangers in a wide range of sizes to suit most pots.



## Saucers

Terracotta saucers are still very popular for creeping miniature orchids such as *Mediocalcar decoratum*, *Epidendrum porpax*, vigorous bulbophyllums, some *Pterostylis* (and other prolific terrestrials), whilst being ideal for the culture of *Pleione* species and its hybrids. These are orchids with a relatively shallow root system, which tend to spread just under the surface of the potting medium.

There are also manufacturers who make plastic saucers, these invariably have few (or any) drainage holes, and these would have to be added. Many growers also use the large plastic sieves sold in hardware stores for larger specimen plants of things like *Dendrobium speciosum* and *Dendrobium kingianum* that will remain in the same container for many years.

It's always good to have a full range of various style pots, in a range of sizes, available at repotting time. It just makes it that much easier if you are organised beforehand.

David Banks

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# The Importance of *Tone* (A bit about colour over shape)

Text and photos by Scott Barrie, Barrita Orchids

Once judging standards existed to guide orchid lovers to what makes a good flower. Also, to guide hybridisers on what was seen as the important attributes that were seen to be in need of improvement at that time. These attributes are Shape, colour, size, substance and Texture, Habit and Arrangement and finally Floriferousness.

Along the way the importance of colour has been lost on both hybridisers and orchid enthusiasts.

Our business is selling orchids to the public. Both cut flowers and for potted plants in bloom. These flowers are part of the impulse market, as they are generally sold at food stores. A customer goes to the store for milk and comes home with an orchid in flower that they simply could not live without.

Colour variety is one of our key areas of planning our production. We like to give each customer the opportunity to

see the colours available in *Cymbidium*. White, pink, green, yellow, orange, brown, burgundy. It is not enough to simply have a variety of colour, the colours need to be fresh, clear and glistening. In the last decade, we have seen a dramatic improvement in the volume of flower flesh in a flower. This has been seen as a positive improvement by the orchid hobbyist community; however this improvement had come at the cost of colour quality. This is demonstrated best in the pink tones.

Pink is second only to white in popularity to the general-public. But not just any pink. Tone is crucial to the appeal of the flower. When evaluating flowers below, hobbyist sees shape as closer to 60% of the marks, rather than the 30% allocated in judging standards.

Here are some examples of pink colour tones.

## ▼ *Cymbidium* Kulnura Vista 'Rosette'

'Rosette' is right on the border. The pink in this flower is too dark to be considered high value. But is still acceptable. The addition of the yellow seen in Kulnura Florid 'Bright' would make this flower much more attractive.



► *Cymbidium*  
**Khan Flame**  
**'SDP'**

This is a wonderful example of poor colour. This flower is not dark enough to be considered burgundy and not light enough to be pink. It is stuck in no man's land.



▼ *Cymbidium*  
**Kulnura Florid**  
**'Bright'**

While this is darker than optimum, this flower still has appeal. This is due to the vivid yellow colouring in the lip.





▼ *Cymbidium* Barrita Eminence 'Supreme'

An example of the fullness of form achieved in modern hybridising.



▲ *Cymbidium*  
(Terama x Cronulla)  
'Maisy'

Another example of pink that is too dark and without life.

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► *Cymbidium*  
**Alexandra's Flame**  
**'Ming'**

A full formed flower, but the lack of texture makes this flower too dull for commercial use.

▼ *Cymbidium*  
**(Hungarian Beauty**  
**x Kulnura Romance)**  
**'Finesse'**

A new seedling blooming in early winter 2017. This flower has very desirable pale pink colouring and contrasting dark lip. This style is currently very popular. ■

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 Kulnura, NSW

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## Australian Orchid Review

### SUBSCRIPTION RENEWAL NOTICES

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# Knowing and Growing *Dendrobium monophyllum*

by David Banks

In the wild, the "Lily of the Valley" orchid *Dendrobium monophyllum* is found from near Grafton in northern New South Wales northwards along the coast to the Big Tableland (south of Cooktown) of North Queensland. There are also inland populations at Kroombit Tops and Forty Mile Scrub in Queensland. It was first described in 1859 with the Type collected from trees growing near Moreton Bay in south-eastern Queensland. It is generally a litter-collecting lithophyte on exposed rockfaces near humid rainforests. It also occurs as an epiphyte but the plants tend to not grow as large as those found on rocks, but there are exceptions such as near Kalpowar, Queensland.

Plants can withstand a very wide range in temperature and is amenable to cultivation from temperate to tropical climates. In the wild it grows from 50-1100 metres, being found at higher elevations throughout North Queensland's wet tropics. The name *monophyllum* translates from the Latin into one-leaf, a common feature of this species. However robust plants, especially those from the northern part of its range will often produce two leaves.

This endemic Australian species has a reputation for being somewhat difficult in cultivation. Over the years I have tried numerous ways of cultivating this species with varying degrees of success, including pots, slabs and on live trees in the garden.

Pot culture is the favoured choice for many orchid growers, probably due to availability, price, portability and aesthetics. I've tried this species in squat plastic pots using medium grade treated pine bark as the sole ingredient. The plants are then hung up under 50% shade cloth, next to the "softcane" dendrobiums (true *Dendrobium*!) and whilst they grow OK they rarely bloom. This mix is well-drained and I certainly tend to grow it on the "dry" side. Ray Clement of Tinonee Orchids has some outstanding specimen plants in a predominantly bark mix that are grown in shallow (about 60mm deep) rectangular terracotta pots, the type primarily used for bonsai. He also grows young plants on horizontal cork rafts.

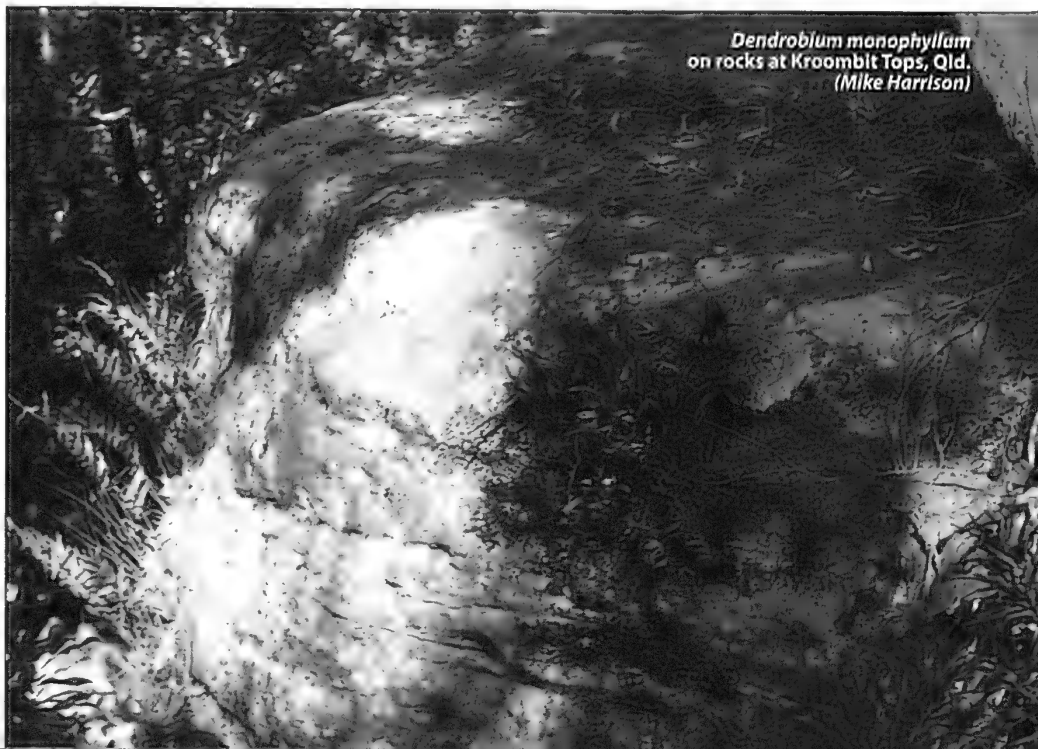
I've rarely seen a happy plant of *Dendrobium monophyllum* on treefern (of any type). The roots

tend to initially attach to the host and then the roots simply stop growing. In any case, soft treefern would keep the plant too wet.

Virgin cork has been the most successful medium for slab culture in the orchid house, and is a substrate that has a very long life and does not collect salts as treefern does. As noted briefly above, one tip is to have the slab horizontal instead of vertical, enabling the plant to grow in the same manner as it is found in the wild. Hang the plant up high in your orchid growing area, as this species needs high light levels and unrestricted air circulation and also needs to dry out quickly after watering.

The ideal time to repot or remount plants of this species is in late winter to early spring. New growths are starting to grow with a flush of new roots as can be seen from the photo (taken late August).

However the best plants we have grown are those initially tied onto a live host. Many decades ago, well known *Cymbidium* grower Norm Shipway gave me a division of *Dendrobium monophyllum* that we tied onto our mature frangipani (*Plumeria* sp.) tree in the backyard. This plant continues to thrive and has developed into an impressive specimen that blooms sporadically throughout the year with its heaviest flowerings in the warmer months. Many who have attended our Open Days would have seen this plant, which has experienced temperatures from -3°C in winter to a hostile 47°C in summer.



*Dendrobium monophyllum*  
on rocks at Kroombit Tops, Qld.  
(Mike Harrison)



*Dendrobium monophyllum*  
from Mt. Lewis, Qld.  
(Bill Dobson)



## Hybrids

As of March 2017, there have been 13 registered hybrids with *Dendrobium monophyllum* – most of these were primary hybrids that were probably made more out of curiosity than anything. Interestingly there are combinations with the rare Vietnamese species *Dendrobium trantuanii* and the cold tolerant Australian endemic *Dockrillia striolata*. Only a few of these hybrids are readily seen in cultivation, and perhaps some of these novelties have died out over time.

The three Australian native primary hybrids with *Dendrobium monophyllum* that are the most popular are *Dendrobium Karani* (x *kingianum*), *Dendrobium Aussie Choice* (x *speciosum*) and *Dendrobium Sweet Bernadette* (x *bigibbum*). These have proved to be quite amenable to cultivation over the past couple of decades potted in a coarse bark-based medium, with river gravel and perlite added to assist drainage. However I'm sure these hybrids would also perform well as mounted specimens. It does amuse me (and I'm also at fault here!) that some orchid species that don't like to be potted yet are known to perform best on mounts are only ever treated that way, as pure epiphytes. Yet, hybrids from these same species are always grown in pots! Slabs for species, pots for hybrids.... it doesn't make sense!

## Taxonomy

Recently the taxonomy of the genus *Dendrobium* has undergone dramatic change with many of the Sections within this large group now split into a myriad of segregate genera. *Dendrobium monophyllum* has since been reclassified as *Australorchis monophylla*.

*Australorchis* was reinstated in 2002 by Mark Clements and David Jones as distinct from *Dendrobium* based on the following features: short pseudobulbs, one or two long-lived terminal leaves, inflorescences produced from the upper nodes plus blooms with a 3-lobed labellum.

In all there are four species of *Australorchis*, all endemic to Australia. The other species being *Australorchis carriei* (syn. *Dendrobium carriei*), *Australorchis schneiderae* (syn. *Dendrobium schneiderae*) and the recently described *Australorchis eungellensis* (syn. *Dendrobium schneiderae* var. *major*). DNA-based molecular phylogenetic studies support the recognition of *Australorchis* as a distinct genus. A major paper supporting this treatment is imminent. ■

David P Banks

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*Dendrobium monophyllum*  
Kroombit tops, Qld.  
Note later collecting habit  
(Mike Jamison)



*Dendrobium monophyllum*  
North Queensland  
(David Titmuss)



*Dendrobium monophyllum*  
Kroombit, Qld.  
With *Dendrobium gracile* at  
bottom left of image  
(John Roberts)



*Dendrobium monophyllum*  
(cultivated plant  
on frangipani at  
Northmead, NSW)



*Dendrobium monophyllum*  
(20 flowers on inflorescence)



*Dendrobium monophyllum*



*Dendrobium monophyllum*  
active new roots and  
new growth in August

*Dendrobium monophyllum*  
- grown on  
cork raft at  
Tinonee Orchid  
Nursery, showing  
plant habit  
(Ray Clement)



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*Dendrobium*  
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# Southern record of *Dendrobium tetragonum* in the Shoalhaven Region

by Alan W. Stephenson

The area which is the focus of this article and the habitat of this orchid is southwest of Nowra, NSW. It was once a part of the New South Wales State Forest system and was along with numerous similar areas, reclassified as National Park in 1998. The forest area along the creek in the immediate post war era was generally logged along the top of the gorge and at this point the signs of a vehicle track are just visible but probably only to those who were aware of the previous industry.

The tree species which were the focus of logging are *Syncarpia glomulifera* (Turpentine), *Eucalyptus pilularis*, (Blackbutt) and a couple of the several species of known as

Scribbly Gum, *Eucalyptus haemastoma* and *Eucalyptus sclerophylla*. Uses for these trees ranged from Bridge and Pier supports (Turpentine) to props for coal mines and rural fencing and all of these species are on the escarpment, not in the mainly rainforest gorge.

I was first introduced to the gorge area by workmates, prior to my involvement with orchids. One of whom was keen to collect some tree ferns in the rainforest section. These were *Cyathea leichhardtiana* (Prickly Tree Fern) and the less prolific to the gorge, *Dicksonia antarctica* (Soft Tree Fern). A range of other smaller ferns are also spread along the gorge, which forms a boundary for the small creek.

Some time after my orchid initiation I came to realise the number of terrestrial species bordering the six kilometres of track leading to the top of the gorge and that these included *Genoplesium baueri* and all four species of *Cryptostylis* available in the eastern states.

Other non-orchid species also occur and these are the palms in the form of Cabbage Palms (*Livistona australis*) and Bangalow Palm (*Arcontophoenix cunninghamiana*). The host trees for the species which was the target of the last visit are *Backhousia myrtifolia* (Grey Myrtle) and *Tristaniopsis laurina* (Water Gum). Visits to the Royal National Park have noted this orchid has been found only on Grey Myrtle but in this gorge, it has a preference for Water Gum with the occasional plant on a Grey Myrtle. I have a Bangalow Palm growing in my front yard. It is over five metres tall and was grown from seed collected during a visit with a reptile loving friend who accompanied me in the search for varieties of frogs. The seed was propagated over 10 years ago and the tree looks good.

I visited this gorge a couple of years ago and we were too early for flowering plants but despite the difficult walking conditions I enjoy the walk (scramble) and the general habitat, which produces both epiphytic and lithophytic orchids, although some grow both ways. The two endangered species within the National Park are both terrestrial but the target for the day was *Dendrobium tetragonum* (*Tetrabaculum tetragonum*) as this is the most southerly recorded site in Australia and I did initially see the plant prior to my orchid introduction. The area is all sandstone so no *Sarcochilus falcatus* here, but *Plectorhiza tridentata* and *Sarcochilus olivaceus* are plentiful as is *Dockrillia striolata*, *Liparis reflexa*, *Dendrobium speciosum* and *Cymbidium suave*. To add to these species there are approximately 30 terrestrial species, making quite a total for the immediate area and I expect a couple more still to be

located as I know I have not walked every square metre of this piece of bush. Among these are two endangered terrestrials but the *Dendrobium tetragonum* can only be listed as the most southerly site in Australia. Plants are well spread along 500 metres of the gorge and have recruited well over the years despite the occasional naturally occurring upsets in the forms of flood and fire.

One feature of the day was the flood debris which was several metres above normal creek level and it was obvious that the flood event of August 2015 was responsible for the erosion and falling of more than one small host tree as plants were noted on some of the fallen trees. Many plants are several metres above creek level which requires either a long lens or the need to climb the tree for an individual flower photo. This was easier (for me) twenty or more years ago but is something I find more difficult these days. I promised myself this visit would be my last but I still have a yearn to see and photograph what I consider a memorable orchid, so a September visit will be needed before I get much older.

Flowers are usually in the 25mm-30mm range but I have measured an occasional flower at 40mm. There is also some variation in colour, as should be expected by those who even occasionally venture off the track to see worthwhile natural areas and what these areas contain in the way of orchids. As far as gorges go this is a small example, carved by a small creek with an area of great beauty and variety but then again is yet another gorge which leaves me with aching legs but great photos and memories.

One of the more pleasing aspects of this species was its location, discovery and recognition, initially three decades ago. The significance was of course the discovery of yet another orchid not known to grow in the Shoalhaven area.



*Dendrobium tetragonum*



*Dendrobium tetragonum*



Shortly after my association with ANOS Illawarra, where I learned at a meeting of a request from the James Cook University for knowledge of any locations for this species beyond those known at that time, to aid scientific study by that institution. As I knew the site I volunteered to collect some leaves and other material and relay the distribution of plants. As a matter of expediency, I went there on my own but that was the first and last time I did this as it is not the place to get injured as there is nobody to hear a scream. However, I have survived several visits to the gorge (with company) and would like one more to see and photograph a species which has a special place in my memory.

One of these memories was finding *Genoplesium baueri* for the first time in a roadside run-off drain as I was driving along the primary track to the main road. I later developed an affection for this orchid to the extent I later wrote state and federal nominations for it to be listed as endangered. One of the nominations consisted of 38 pages of data which was a real test of my bureaucratic skills. This effort required walking each side of the 6km track from the main road to the creek on two occasions to record plant numbers and there are 10 plants in total but this same track contains all four species of *Cryptostylis* known to occur in the eastern states, so the effort expended had more than one result. ■

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*Dendrobium tetragonum*

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# Orchid Road Test



by Sam Cowie

## *Goodaleara* Pacific Truffle 'Surrogate Star'

For this road test we're going to look at the larger flowered *Oncidium* intergenerics that get their flower size from the *Odontoglossum* side of the family that has been mixed with *Miltonia spectabilis*. The intergeneric *Goodaleara* comes from the combination of *Brassia*, *Cochlioda*, *Miltonia*, *Odontoglossum* and *Oncidium* genera. *Goodaleara* isn't as common as *Beallara* and only differs from the added *Oncidium* genera in the background.

My first impression of *Goodaleara* Pacific Truffle was one of hesitation, as the cooler growing parent *Wilsonara* Lisa Devos was used as the pod parent, not something you want when growing in the subtropics of South East Queensland. The general rule of thumb is to have the hot growing parent as the pod parent, thus passing on warm growing characteristics. The pollen parent was *Beallara* Tropic Splendor that has a double dose of the hot growing *Miltassia* Cartagena in its parentage, so it had potential to grow 41 degrees warm.

Straight out of flask *Goodaleara* Pacific Truffle grew very well and surprised us with spike initiation in plug trays on the flask bulb. Due to the rapid spike initiation, we potted earlier than normal production scheduling and ended up putting the smaller plants into 80mm squat pots, the rest went into 105mm pots. We found that the bulk of the smaller plants in 80mm pots flowered quicker than the 105mm pots, where the larger plants in 105mm seem to devote their time to filling out the pot before flowering. Our observations point to the fact that Pacific Truffle prefers to be well and truly root bound and tight in the pot for best flowering.

What really sets *Goodaleara* Pacific Truffle apart is the large flowers (125mm or 5 inches across), usually on good sized spikes with up to 15 blooms on each. Now being a male I apparently don't have great colour perception according to almost every woman I've known! What I can say is the flowers aren't a solid colour and the American Orchid Society award for *Goodaleara* Pacific Truffle 'Surrogate Star' describes

the colour as 'light chartreuse irregularly blotched light dusty lavender, lip light fuchsia, chartreuse centrally blotched maroon'. Colour intensity of the flowers will vary with temperature, with flowering in summer a paler colour compared to a more intense winter flower colour. On a big well-flowered plant the effect of large flowers with this colour pattern is quite striking, particularly as a well grown plant will produce two spikes per growth.

One down side to *Goodaleara* Pacific Truffle is the leaf spotting. Now leaf spotting in *Oncidium* Intergenerics is a common problem, think *Oncidium* Sharry Baby 'Sweet Fragrance', usually associated with the leaf stomata. Leaf

spotting problems due to nutrient, humidity, temperature, genetic, and/or foliage moisture issues may vary from mild to extreme with fungal or bacterial infection taking place and subsequent leaf loss. With *Goodaleara* Pacific Truffle I'm leaning towards the issue being associated with low humidity and higher temperatures, as the spots are usually isolated to the stomata on the back of the leaf and generally only significant on the older foliage (see photo comparing newer foliage to older foliage). Given the leaf spot issue we grow *Goodaleara* Pacific Truffle under cover so that the foliage isn't



subject to rain, as dry foliage at night is better for avoiding bacterial and fungal issues.

Otherwise I'd treat *Goodaleara* Pacific Truffle like any other *Oncidium* Intergeneric, keep it moist but well drained, feed it well (like a teenage boy), and grow under 50 to 70% shade.

Although I was initially hesitant to take on and grow *Goodaleara* Pacific Truffle we have found it a great grower in the warm subtropics and generally tolerant of climatic extremes, good given that our greenhouse was running a constant 36 to 39 degrees day in day out last summer, and a high in the low 40's. The stories I've heard from NSW and Victoria, I'm quite sure no one wants another summer like January/February 2017!





# A Bit About...

## *Liparis coelogynoides*

by Gerry Walsh

I'll never forget the first time I tried to pronounce "*coelogynoides*". I was attending my first committee meeting after being shanghaied into the editor's job while attending my very first meeting at ANOS Sydney Group. That was way back in 1982. I uttered some unintelligible incantation but was quickly corrected by the leading lights in the Sydney Group of ANOS. Anyway... I may have been embarrassed beyond belief but I sure as hell learnt how to say SOLE-LODGE-IN-OID-EES with all the plum of a young lady from a Swiss Finishing School. Most of the newer entrants in the native orchid stakes, and plenty of the course stewards too for that matter, find Latin pronunciation harder than Chinese arithmetic. I know I sure did (do?).

*Liparis coelogynoides* is the smallest and daintiest of the three epiphytic species of *Liparis* occurring in New South Wales, the other two being *Liparis reflexa* and *Liparis swenssonii* (syn. *Liparis reflexa* var. *parviflora*). Given the common name of "Tree Fairy Orchid", some authorities use the name *Cestichis coelogynoides*. While its larger cousins are virtually 100% rock dwellers, *Liparis coelogynoides* is the exact opposite - it is virtually a 100% tree dweller. I must be getting senile because although I have this idea that I have seen it growing on a rock at least once, for the life of me I can't remember where it was!

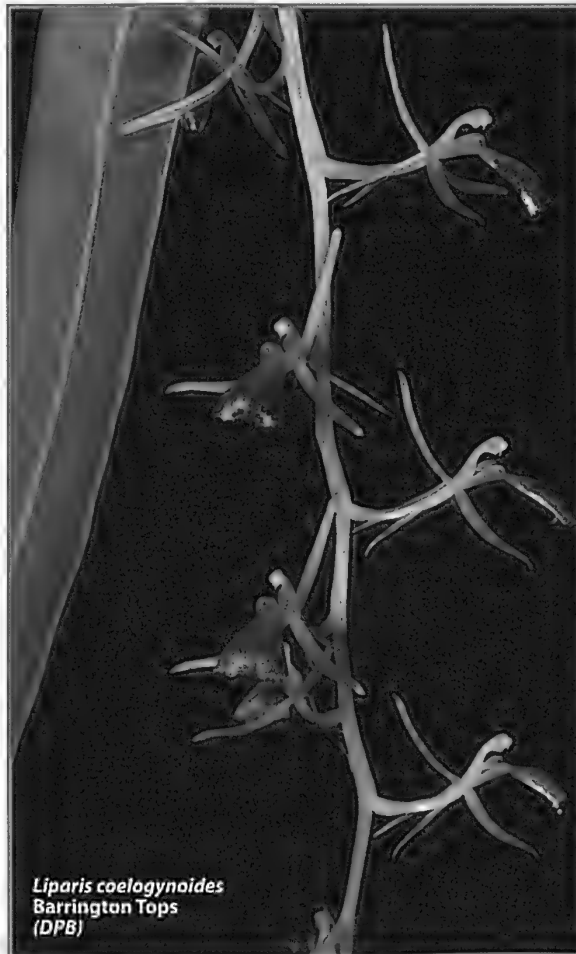
*Liparis coelogynoides* can be found, according to most text books, between the Hunter River and south-east Queensland. My own experiences with this species are wide. It is certainly not uncommon (but never abundant) on the south side of the Barrington Tops where I have seen it in the Patterson, Allyn and Williams Rivers. To the north I found a single small clump in the Bunya Mountains during a very brief visit in October 1989.

I will never forget a certain murderous looking chasm that we explored up on the Carrai Plateau in September 1987.

This orchid "Eldorado", between Kempsey and Armidale, held an incredible supply of *Liparis coelogynoides*. I remember moss-draped trees, similar in size and shape to old fruit trees in an unkempt orchard, in which the *Liparis* started growing only a metre above the ground, but kept running in leap-frog fashion, in almost unbroken procession right up into the finger thick branches of the crowns. The orchid looked for all the world like Velvet Rock Fern (*Pyrrosia rupestris*) the way it ran up the trunk ... forking here and there as it went. What a sight it must make in the flowering season!

There is another population of *Liparis coelogynoides* far removed from the normal range of the species however. In June 1993, I found myself up in the Eungella Ranges behind Mackay in northern Queensland. While foraging around the cluttered benches of a native plant nursery, the owner drew my attention to a small clump of *Liparis* he had just collected from a logging area. The only *Liparis* that occurs naturally in the locality is *Liparis nugentiae* which is very robust by comparison and much different in the shape of the pseudobulbs. I had never heard of *Liparis coelogynoides* being found up there but this little piece sure looked like that to me. Back home I checked out the books and Alick Dockrill, in his 1969 *Australian Indigenous Orchids*, states that there are 'reports' of *Liparis coelogynoides* occurring between the Fitzroy and the Burdekin Rivers.

When it flowered a year later, it certainly resembled *Liparis coelogynoides* but was far daintier and an ivory flower colour compared to southern plants, which are an opaque yellowy/green colour. I feel that further investigation is needed by the botanists before it can be said that a colony of *Liparis coelogynoides* survives 1000 kms outside its normal range. Then again, Eungella is notorious for sheltering all manner of orchidaceous surprises. This may be just another one of them.



*Liparis coelogynoides*  
Barrington Tops  
(DPB)

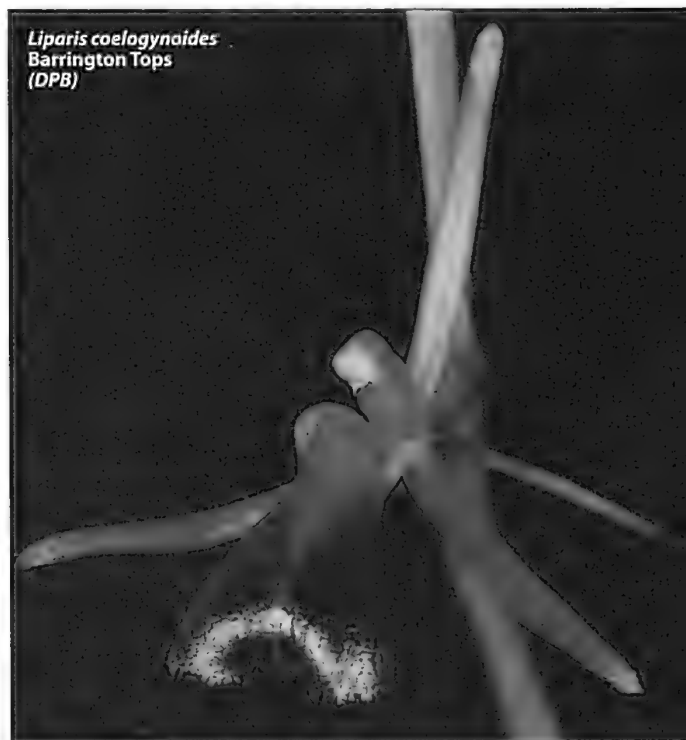
*Liparis coelogynoides* most often occurs in rainforest situations where it prefers a posse on the main trunks of small to medium trees growing in fairly heavy shade. On large emergent trees it will extend on to the thicker limbs of the canopy. It will also colonise *Casuarina* (River Oak) and other non-rainforest trees from time to time where light levels are far higher. Plants in this situation will inevitably take on a stunted, yellow appearance and display quite short racemes compared to the wet forest dwellers.

Pseudobulbs are squat and rounded with slight angular ribbing around the circumference. They range up to about 30mm in diameter but 20mm would be more the norm in the wild. In cultivation they grow much larger than their wild relatives. In nature, the leaves number one or two and average around 10-15cm in length but are often quite thin and poorly looking. In the bush house they tend to fatten up however.

It can be seen that this is one species that responds brilliantly to good cultivation. *Liparis coelogynoides* flowers from January

right through to April and for this reason it deserves a place in the collection of any serious native orchid grower. It supplies a burst of blooms when there is not a lot of activity in the average temperate bush house. While not a particularly eye-catching orchid florally speaking, there can be few other species that look as vegetatively appealing as a well-grown, large clump of *Liparis coelogynoides*.

As with all *Liparis* species, *Liparis coelogynoides* only flowers from new growths. The beautiful arching racemes are up to 20cm long, are quite thin, and support up to 20 or so flowers of approximately 15mm diameter. As already described, colour is unimpressive. It is the shape of the labellum that gives *Liparis coelogynoides* its most obvious floral attribute. The mid lobe is quite large for the size of the flower and is distinctly deltoid, or triangular, in shape. In fact, it always resembles a sort of "arboreal" *Acianthus* species to me, which you growers of terrestrials may relate to. A large specimen can really cover itself with racemes and flowers and is a sight to behold.



If you want to grow *Liparis coelogynoides* in captivity, there is only one way to go about it. Put your plant onto a good chunk of tree fern fibre. Tree fern fibre is so far in front of any other substrate I've used that I'd have to say you'd be a real hard case if you didn't choose it too! I'd use *Cyathea* for first preference but it also does well on *Dicksonia*, which I rarely use these days. It's too soft and stays too damp for my liking, but it will be OK for *Liparis coelogynoides*. But make it a big cube and not a thin slice. Your orchid will quickly cover the host - a thin slice of *Dicksonia* just won't have the muscle to support the eventual weight. But this is a versatile species and seems to do really well on cork as well. The roots are quite thin and the tree fern aids greatly in keeping the moisture around them. Water well, don't allow to dry out and hang it up under 50% shade or better and you just can't miss with *Liparis coelogynoides*.



*Liparis coelogynoides*  
In situ  
Barrington Tops,  
(MH)



*Liparis coelogynoides*  
growing on *Casuarina*  
with *Dockrillia cucumerina*,  
west of Gloucester  
(DPB)

About the only problem that seems to affect this orchid are caterpillars. They just love the tender new growths together with the young leaves and juvenile racemes. Another pest I recently encountered was a miniature kind of case-moth larvae. These little devils construct a 10mm long protective cocoon out of frass and silk and hides in it during the day, usually concealed deep in the old bulbs. In the morning you see just the white skeletal veining forming the remaining frame of the leaf. All the succulent green tissue has been carefully nibbled out during the wee hours. This damage is quite unsightly until disguised by the next round of new growth. So watch out!

Gerry Walsh  
"The Rock Lily Man"  
Winmalee, NSW

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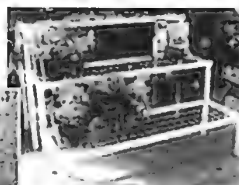
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*Liparis coelogynoides* Cunninghams Gap Qld.  
Original drawing by John Riley.

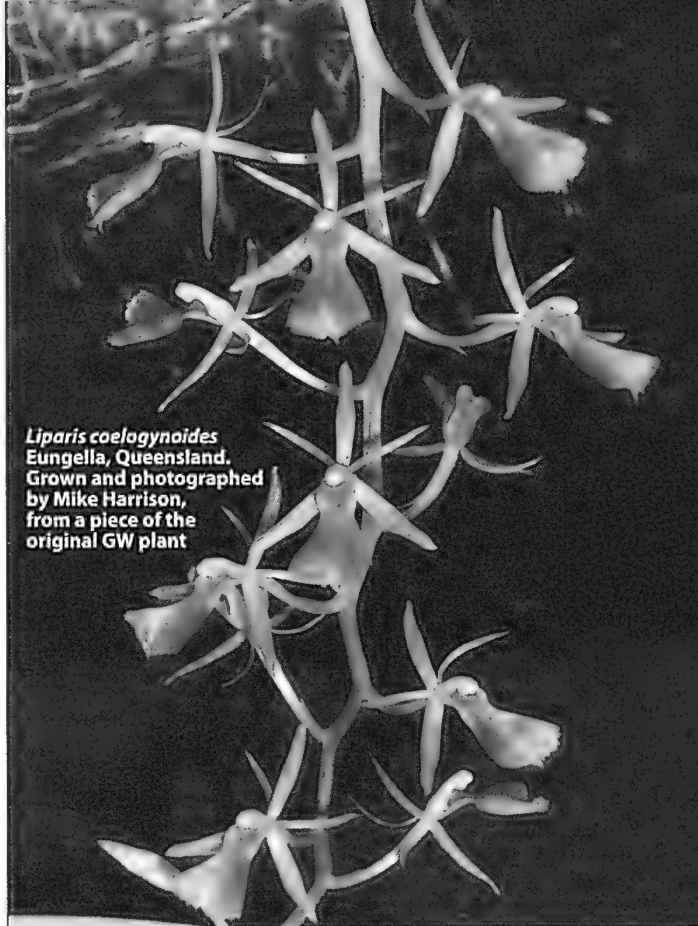


*Liparis coelogynoides*  
Eungella, Queensland.  
A large plant can be spectacular. This is the only known collection that exists in cultivation of the unique Eungella specimen. This specimen was grown from only 3 bulbs collected in June 1993. This photo was taken in February 2010. (GW)

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*Liparis coelogynoides*  
Eungella, Queensland.  
Grown and photographed  
by Mike Harrison,  
from a piece of the  
original GW plant



*Liparis coelogynoides*  
Swampy Ridge  
Eungella, Queensland  
(DLJ11691 – photographed  
by Mark Clements)

# Two new small-flowered species of *Plumatichilos* (Orchidaceae: Pterostylidinae) from Western Australia

by David L. Jones and Christopher J. French

## Abstract

*Plumatichilos facetus*, *Plumatichilos galgulus*, two new species with affinities to *Plumatichilos barbatus* (Lindl.) D.L.Szlachetko are described as new from Western Australia.

## Key Words

Orchidaceae, *Plumatichilos facetus*, *Plumatichilos galgulus*, *Plumatichilos barbatus*, new species, Western Australia, Australian flora.

## Introduction

*Plumatichilos* is a distinctive genus the members of which can be readily distinguished by a number of morphological features, especially the plumose filiform labellum that protrudes prominently from the flower (Jones & Clements 2002, Jones 2015, 2016, Jones & French 2017). Two new species from Western Australia are described here as new.

## Taxonomy

1. *Plumatichilos facetus* D.L.Jones, C.J.French & M.A.Clem., *sp. nov.* With affinity to *Plumatichilos barbatus* (Lindley) Szlachetko but differing by its much smaller, paler flowers, shortly pointed dorsal sepal, lateral sepals with shorter free points and densely hairy labellum with a larger apical knob.

**Type:** Western Australia. Roe District: 13.5 km from Mt Ney, at salt lake, 10 Aug. 1980, *M.A.Clements 1885* (holo CBG 8005238).

**Illustrations:** Page 379, Hoffman & Brown (1992) – as *Pterostylis* aff. *plumosa*, page 399, Brown, Dixon, French & Brockman (2013), as *Pterostylis* sp. ‘plumed’.

**Description:** *Sterile rosette* with 4–10 leaves, spreading; petiole 0–3 mm long; lamina elliptic, 5–20 mm long, 3–5 mm wide, green, margins entire, apex acute to acuminate. *Fertile plants* 8–20 cm tall. *Cauline leaves* obliquely erect to erect, 10–18, basal ones obliquely erect and loosely clustered in a rosette, upper ones scattered and closely appressed to the stem; lamina elliptical to obovate, 10–20 mm long, 4–6 mm wide, dark green with some translucent interveinal areas; base stem-clasping; margins entire; apex long-acuminate to aristate. *Scape* smooth. *Ovary* 3–5 mm long, green, smooth. *Flower* solitary, leaning forwards, 18–30 mm long, 8–10 mm across, transparent to

*Plumatichilos facetus*  
Mt Ney Rd,  
15 Aug 2013  
(CF)





*Plumatichilos facetus*  
Mt Ney Rd,  
15 Aug 2013  
(CF)



translucent with dark green veins and brown to dark reddish-brown petals and the inner conjoined part of the lateral sepals. *Galea* 20-25 mm long, widest at the base when viewed from the front and narrowed upwards, from the side curved forwards in distal third and ending in an obliquely erect apical point. *Dorsal sepal* 26-30 mm long, 12-16 mm wide when flattened, laterally inflated at the base then gradually tapered, ending in an acuminate point 5-7 mm long, translucent with prominent green longitudinal veins and finer transverse and reticulate veins. *Lateral sepals* deflexed, 17-23 mm long; conjoined part 5-7 mm long, 2.5-3.5 mm wide, central part raised and mounded, dark reddish brown, more or less papillate, margins light green, infolded; free points usually divergent, 12-16 mm long, linear, yellowish green to brownish, distal margins infolded, apex subacute to obtuse. *Petals* 18-23 mm long, falcate, dark reddish brown with translucent interveinal areas; basal part 8-10 mm long, 2-2.5 mm wide; basal flange c. 2 mm across, fairly prominent; distal part 10-13 mm long, long-tapered to flagelliform. *Labellum* porrect, 12-17 mm long, erect at the very base then shallowly curved and projecting forwards through the basal frontal opening. *Labellum* hinge c. 1 mm long, white. *Labellum lamina* dark reddish brown; basal beak narrowly ovate, c. 2.5 mm long, c. 1 mm across; linear-liliform part c. 10 mm long, c. 0.5 mm wide; apical knob swollen, c. 2 mm long, 1.5 mm wide, dark reddish brown. *Labellum hairs* of three types; white hairs on basal beak c. 0.5 mm long;

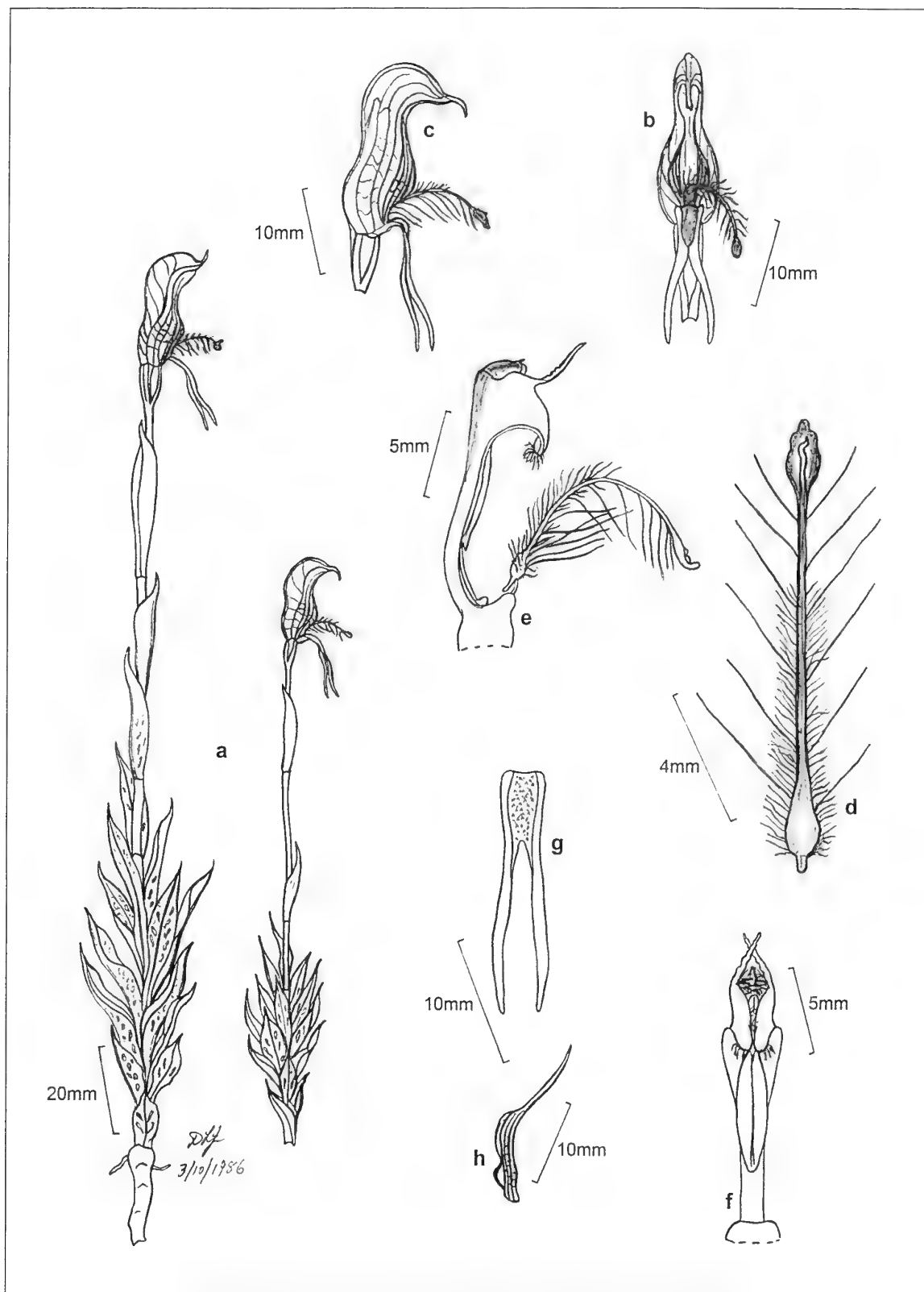
fine yellow hairs restricted to the proximal part of the lamina, held more or less erect in two rows on the dorsal side of the lamina, c. 1 mm long; coarse yellow hairs over most of the lamina (8-12 pairs, 3-5 mm long) arising from the labellum margins and mainly projected outwards and downwards. *Column* 12-14 mm long, curved away from the ovary at about 60° at the base then obliquely erect, light greenish-white, broadest just near base of column wings. *Column wings* projected forwards, 4.5-5 mm long, c. 4 mm wide, more or less rectangular, translucent white; basal lobe downcurved, c. 1.5 mm long, 1 mm wide, obtuse, inner margins incurved, adorned with short, white, tangled cilia; mid-section c. 2.5 mm long, translucent green; apical lobe linear, c. 3-4 mm long, somewhat irregular, acute. *Anther* c. 2.5 mm long, with a short peaked rostrum. *Pollinia* linear-oblong, c. 2 mm long, yellow, mealy. *Stigma* central, elliptical, 6-7 mm long, 1.8 mm wide, raised. *Capsule* not seen.

Fig. 1.

**Distribution and ecology:** Restricted to a small area between just west of Esperance and east to Israelite Bay in south-western Western Australia. This species occurs as scattered disjunct populations in sparse to dense mallee communities, shrubland, on granite outcrops and in sand near salt lakes. Alt. 100-220 m.

**Flowering period:** August and September.





***Plumatichilos facetus*, Mt Ney area, WA, M.A.Clements. (Fig. 1.)**

a. flowering plants; b. flower from front; c. flower from side; d. labellum;  
e. column and labellum from side; f. column from front; g. synsepalum; h. petal.

© David L. Jones 3 October 1986.

**Recognition:** Characterised by short habit, relatively small pale green flowers with a network of darker green veins in the galea and brown veins and markings in the petals and conjoined base of the lateral sepals, short porrect to obliquely erect point on the dorsal sepal, short free points on the lateral sepals and a densely hairy labellum with a large dark brown apical knob.

**Similar species:** The new species shares the general flower shape and colouration of *Plumatichilos barbatus* but the latter is much taller growing (commonly 25-30 cm tall, whereas *Plumatichilos facetus* is 10-16 cm) with larger darker green flowers, a much longer upcurved point on the dorsal sepal, longer free points on the lateral sepals, broader petals with very prominent blackish markings on the petals and a sparsely hairy labellum with a small, narrow apical knob. The new species differs from *Plumatichilos barbatus* by its much smaller, paler flowers, shortly pointed dorsal sepal, short free points, and a densely hairy labellum with a larger (much broader) apical knob. *Plumatichilos facetus* has also been linked with *Plumatichilos plumosus* (Hoffman & Brown 1972) but it has no brown markings on the petals and conjoined part of the lateral sepals (prominent in *Plumatichilos facetus*) and the dorsal surface of the labellum base is prominently ruminant (smooth in *Plumatichilos facetus*).

**Conservation Status:** Of relatively restricted distribution but sometimes locally common and conserved in at least one National Park.

**Etymology:** The Latin *facetus*, fine, elegant, well made, referring to the appearance of this species.

**Other specimens:** Western Australia, Roe District. 13.5 km from Mt Ney, at salt lake, 9 Aug. 1980, M.A. Clements 1874 (CBG 8005227); Mt Ragged, 22 Sep. 1982, J. Taylor (CBG 8208491); Gibson, 22 Sep. 1989, R. Tunstall (DLJ 5084) (CBG 8913616); Telegraph track, 1.3 km SW of Kau Rock Road on Coolinup Road, 23 September 1985, L.J. Nunn 293 (PERTH 01124404); Coomalbidgup, 29 September 1965, J. Bowen 6 (PERTH 00926043).

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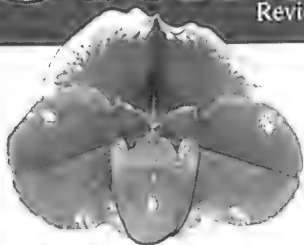
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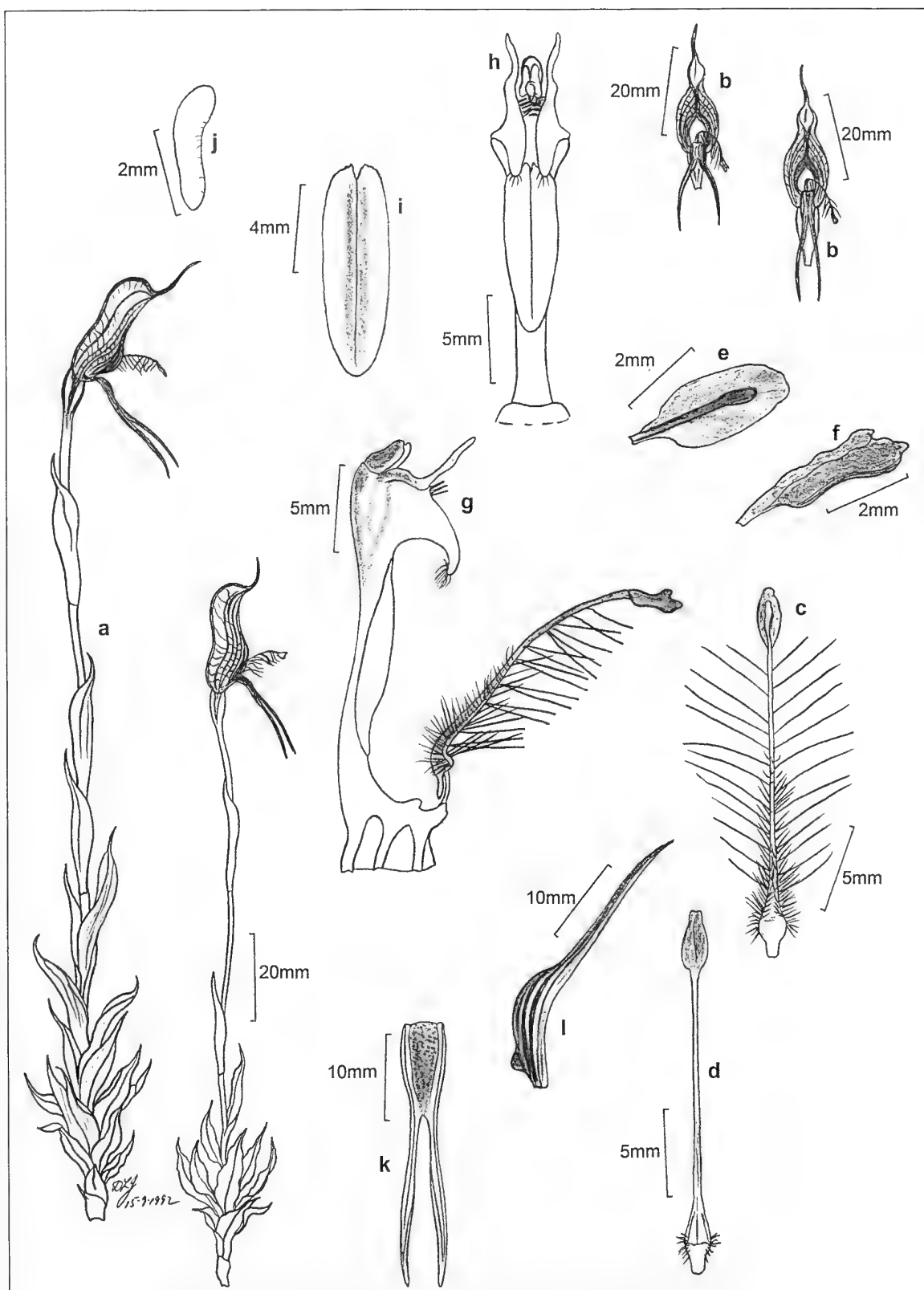
2. *Plumatichilos galgulus* D.L.Jones & C.J.French, *sp. nov.* With affinity to *Plumatichilos barbatus* (Lindley) Szlachetko but differing by its smaller flowers, shortly pointed dorsal sepal and shorter, thicker lateral sepals.

**Type:** Western Australia. Darling District: Piawaning-Wongan Hills Rd, 3.4 km from Wongan Hills, 1 Aug. 1983, C.J.French (DLJ 11833) (holo CBG 9706943; iso PERTH).

**Illustrations:** Page 380, Hoffman & Brown (1992) – as *Pterostylis* aff. *plumosa*, page 396, Brown, Dixon, French & Brockman (2013), as *Pterostylis* sp. 'dwarf'.

**Description:** Sterile rosette with 4-8 leaves, spreading; petiole 0-7 mm long; lamina ovate, 5-12 mm long, 3-5 mm wide, green, margins entire, apex acute to acuminate. Fertile plants 90-200 mm tall. Cauline leaves obliquely erect to erect, 10-16, basal ones obliquely erect and loosely clustered in an extended rosette, upper ones scattered and appressed to the stem; lamina elliptical to obovate, 10-40 mm long, 5-10 mm wide, dark green with some translucent interveinal areas; base stem-clasping; margins entire to undulate; apex long-acuminate to aristate. Ovary 3-5 mm long, green, smooth. Flower solitary, leaning forwards, 35-45 mm long, 8-10 mm across, transparent to translucent with dark green veins and dark reddish-brown petals and the inner conjoined part of the lateral sepals. Galea 20-25 mm long, widest at the base when viewed from the front and narrowed upwards, from the side curved forwards in distal third and ending in an obliquely erect apical point. Dorsal sepal 24-28 mm long, 14-18 mm wide when flattened, laterally inflated at the base then gradually tapered, ending in an acuminate point 3-5 mm long, translucent with prominent green longitudinal veins and finer transverse and reticulate veins. Lateral sepals deflexed, 17-23 mm long; conjoined part 6-8 mm long, 3.5-4 mm wide, central part raised and mounded, dark reddish brown, more or less papillate, margins light green, infolded; free points parallel or slightly divergent, 15-22 mm long, linear, yellowish green to brownish, distal margins infolded, apex obtuse. Petals 18-22 mm long, falcate, dark reddish brown with translucent interveinal areas; basal part 10-14 mm long, 3-3.5 mm wide; basal flange c. 2 mm across, fairly prominent; distal part 10-20 mm long, long-tapered to flagelliform. Labellum perfect, 17-22 mm long, erect at the very base then straight or shallowly curved. Labellum hinge c. 2 mm long, white. Labellum lamina dark reddish brown; basal beak ovate, c. 3.5 mm long, c. 1.5 mm across; linear-filiform part c. 15 mm long, c. 0.5 mm wide; apical knob swollen, c. 3 mm long, 1.5 mm wide, dark reddish brown. Labellum hairs of three types; white hairs on basal beak c. 0.5 mm long; fine yellow hairs restricted to the proximal part of the lamina, held more or less erect in two rows on the dorsal side of the lamina, c. 2 mm long; coarse yellow hairs over most of the lamina (8-14 pairs, 3-6 mm long) arising from the labellum margins and mainly projected outwards and downwards. Column 17-20 mm long, erect to obliquely erect, light greenish-white, broadest just near base of column wings. Column wings projected forwards, 5-6 mm long, c. 4 mm wide, more or less rectangular, translucent white; basal lobe downcurved, c. 2.5 mm long, 1 mm wide, obtuse, inner margins incurved, adorned with short, white, tangled cilia; mid-section c. 4 mm long, translucent green; apical lobe linear, c. 3-4 mm long, somewhat irregular, acute. Anther c. 2.5 mm long, with a short rostrum. Pollinia linear-oblong, c. 2.8 mm long, yellow, mealy. Stigma central, elliptical, 8-10 mm long, 3 mm wide, raised. Capsule not seen. **Fig. 2.**





***Plumatichilos galgulus*, Qualen Rd, Chris French (DLJ 10063). (Fig. 2.)**

a. flowering plants; b. flowers from front; c. labellum; d. labellum with hairs removed; e. labellum apical knob from top; f. labellum apical knob from side; g. column and labellum from side; h. column from front; i. stigma; j. pollinium; k. lateral sepals; l. petal.  
© David L. Jones 15 September 1992.

**Distribution and ecology:** Widespread in inland areas between Geraldton and the Stirling Ranges in south-western Western Australia. Grows in shrubby forest, mallee communities and shrubland in freely draining sands and laterite. Alt. 100-250 m.

**Flowering period:** August and September.

**Recognition:** Characterised by short habit, relatively small dark green flowers with a network of darker green veins in the galea and dark reddish-brown veins and markings in the petals and conjoined base of the lateral sepals, short point on the dorsal sepal, short moderately thick free points on the lateral sepals and a densely hairy labellum with a large dark brown apical knob.

**Similar species:** The new species shares the general flower shape and colouration of *Plumatichilos barbatus* but the latter is much taller growing (commonly 25-30 cm tall, whereas *Plumatichilos galgulus* is 4.5-20 cm) with larger darker green flowers, a much longer upcurved point on the dorsal sepal, longer thinner free points on the lateral sepals, broader petals with very prominent blackish markings on the petals and a sparsely hairy labellum with a small, narrow apical knob. The new species differs from *Plumatichilos barbatus* by its

smaller flowers, shortly pointed dorsal sepal, short thick free points, shorter petals, and a shorter labellum with denser yellow hairs. There is a small overlap in the distribution of *Plumatichilos barbatus* and *Plumatichilos facetus* but the latter species more commonly occurs in drier, wheatbelt areas with *Plumatichilos barbatus* more common closer to the coast in areas of higher rainfall.

**Conservation Status:** Widely distributed, sometimes locally common and conserved.

**Etymology:** The Latin *galgulus*, small bird, referring to its smaller status when compared with *P. barbatus* and an indirect reference to the vernacular of 'Little Bird Orchid'.

**Other specimens:** Western Australia, Darling District: 34 km W of Kondinen towards Corrigin, 10 Sep. 1997, *D.L.Jones* 15475 (CANB 648008); Eyre District: Stirling Range National Park, c. 6 km along Stirling Range Drive, 17 Sep. 1985, *D.L.Jones* 1862 & *B.E.Jones* (CBG 8506347); Stirling Range, 25 Sep. 1989, *R.Tunstall* (DLJ 5085) (CBG 8913617); 7 Mile Well Nature Reserve, Great Northern Highway, 10 km S of New Norcia, 17 Sep. 2000, *C.J.French* 2507 (CANB 624643); Cheeseman Nature Reserve, Buntine East Road, Buntine, 8 September 2009, *G.Brockman*



*Plumatichilos galgulus*  
Corrigin  
- Kondinin Rd,  
1 Sep. 1996  
(GF)



*Plumatichilos galgulus*  
Grt Northern Hwy S  
New Norcia,  
25 Aug 1996  
(CF)



(GBB 2463) (PERTH 08419760); On the N boundary of the reserve, 7.2 km W of Buettner's Road. Dragon Rocks Nature Reserve, c. 40 km N of Newdegate. [Plot - HY32], 21 August 2000, G.J. Keighery & N. Gibson 3908 (PERTH 06514464); 300 m W of the "40 km to Hyden" peg on the Hyden-Kondinin Road and ca 15 km E of Kondinin, 24 September 1988, A.N. Start (PERTH 01828444); Dragon Rocks Nature Reserve 36128, ca 1.6 km S of the North Newdegate Road along Dragon Rocks Road, 29 August 1994, D. McDonald 11 (PERTH 05112214); 406 mile peg North West Coastal Highway [30 km N of T/O to Kalbarri], 8 September 1973, K. Richards (PERTH 05112214).

### Acknowledgements

We thank Jean Egan for preparing David Jones's drawings for publication, Emma Toms, Anna Monro, Marion Garratt and Karina Richards for help with specimens at CANB, Mark Clements for photos of types and information on *Plumatichilos facetus* and the late Ron Heberle for animated discussions about WA orchids. Special thanks to Garry Brockman, Andrew Brown, Nye Evans, Barbara Jones and the late Bill Jackson for companionship on field trips.

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*Plumatichilos galgulus*  
Piawonning Rd  
Wongan Hills,  
1 Sep 1993  
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# New species in the *Diplodinium nanum* (R.Br.) D.L.Jones & M.A.Clem. complex (Orchidaceae) from Western Australia - 5

by David L. Jones and Christopher J. French

## Abstract

*Diplodinium angulatum*, *Diplodinium ectyphum* and *Diplodinium meridionalis* are described here as new. Notes are included on their recognition, distribution, ecology and conservation status. Distinguishing features of each species are compared with allied taxa.

## Key Words

Orchidaceae, *Diplodinium angulatum*, *Diplodinium ectyphum*, *Diplodinium meridionalis*, *Diplodinium nanum*, *Diplodinium pyramidalis*, new species, Western Australia, Australian flora.

## Introduction

A recent DNA-based molecular phylogenetic study clearly showed that the genus *Linguella* aligns with *Diplodinium* (Clements & Jones 2016) and the necessary nomenclatural transfers were made (Jones & Clements 2017). This paper, the fifth in a series, describes three new species from Western Australia. Thirteen new species in Western Australia have been previously described (Jones & French 1&2 (2014), 3 (2014), 4 (2015)).

## Materials and Methods

Descriptions of the new taxa were made from fresh specimens. Unless otherwise indicated, all types of *Diplodinium* relevant to this study (or photographs thereof), and collections cited, have been seen by us.

## Taxonomy

1. *Diplodinium angulatum* D.L.Jones & C.J.French, *sp. nov.* With affinity to *Diplodinium nanum* (R.Br.) D.L.Jones & M.A.Clem. but differing by its larger, fleshy glaucous rosette leaves (green, thin-textured in *D. nanum*), thicker flower stem, larger angular flowers, acuminate dorsal sepal (acute to subacute in *D. nanum*), fleshy verrucose free points on the synsepalum (thin and smooth in *D. nanum*) and larger glabrous labellum (*D. nanum* labellum has shortly hairy margins); also with *Diplodinium pyramidalis* but differing by its distinct basal rosette and larger flowers with broad, flared petals.

**Type:** Western Australia. Darling District; Darkin Swamp Waterhole, 0.6 km east of Darkin Road, 18 September 1994, C.J.French (D.L.Jones 13345) (holo CANB 664151).

**Illustrations:** Page 344, Hoffmann & Brown, second edition (1998) – as *Pterostylis pyramidalis* Lindl. Page 409, Hoffmann & Brown, third edition (2011) – as *P. sp* ‘Helena River’. Page 361, Brown, Dixon, French & Brockman (2013) – as *P. sp* ‘Helena River’.

**Description:** *Rosette* basal; leaves 4-7; lamina ovate, 5-20 mm long, 3-12 mm wide, dark blue-green, paler beneath, subacute to acute, entire; petioles 2-12 mm long, narrowly winged. *Scape* 7-18 cm long, glabrous. *Stem leaves* spreading, 3-7, ovate-lanceolate, 5-20 mm long, 3-8 mm wide. *Ovary* 4-7 mm long, dark green, glabrous. *Flower* solitary, 17-22 mm long, translucent white with dark green stripes and markings, coalescent in the distal half. *Galea* gibbous at the base then erect, curving forwards in the distal third; apex slightly decurved; dorsal sepal slightly longer than the petals. *Dorsal sepal* ovate-lanceolate, 25-30 mm long, 10-12 mm wide, inflated at the base then tapered, striped in the proximal half, coalescent in the distal half; apex acuminate. *Lateral sepals* erect, tightly embracing the galea; sinus bulging near the top in side view; upper margins sloping gently to a shallow central notch in front view, flanked by an area of darker green tissue; central lobe folded internally, ovate, c. 1.5 mm wide, obtuse, dark green; conjoined part 9-10 mm long, 5-6 mm wide, narrowed to c. 2.5 mm across at the base, the upper margins tapered suddenly into the free points; free points erect, linear-clavate, 16-20 mm long, somewhat verrucose, held high above the galea. *Petals* obliquely oblong, 17-20 mm long, 4.5-5 mm wide, falcate, dilated near the apex, green with a narrow white central stripe, distal third darker; anterior margin flared, undulate; flange deltate, c. 2.5 mm across, obtuse. *Labellum* erect, curved forwards suddenly near the apex, white with green stripes in the proximal half, green in the distal half. *Labellum lamina* elliptic-oblong, c. 5 mm long, 2.5 mm wide; lateral margins glabrous, basal margins with a few short white cilia. *Callus* c. 0.5 mm across, ridged, expanding to c. 0.7 mm across near the apex; basal appendage deflexed, linear-tapered, c. 2.5 mm long, sparsely ciliate, curved up at the apex, with 3 lobes. *Column* 8-9 mm long, angled away from the ovary at about 45° at the base then obliquely erect, light green. *Column wings* c. 3 mm long; basal lobe c. 1 mm long, c. 0.8 mm wide, at an angle of c. 70°; anterior margin curved, obtuse; inner margin and apex adorned with short white cilia; mid-section c. 1 mm long, green; apical lobe linear, c. 0.6 mm long. *Anther* c. 1 mm long, obtuse. *Pollinia* linear, c. 1.2 mm long, falcate, mealy, yellow. *Stigma* central, elliptical, c. 3.2 mm long, c. 1 mm wide, raised. *Capsule* not seen. **Fig. 1.**

**Distribution and ecology:** Endemic in south-western WA between Perth and Bunbury, inland to west of York and near Collie. It grows in a range of habitats including winter-wet flats under melaleucas in Wandoo woodland, the margins

*Diplodinium angulatum*  
Yalgorup  
160814





of low-lying swamps, open sedgeland, mixed jarrah/marri/peppermint woodland, tuart forest and flat swales between dunes covered with coastal forest. Soils range from deep white sand and sand over limestone to heavy clay loams. Flowering: August and September.

**Recognition:** Characterised by large dark blue-green rosette leaves, relatively tall scape, 3-5 large ovate-lanceolate spreading stem leaves, and a large dark green and white flower which has an acuminate dorsal sepal, large dark green area at the top of the sinus, broadly flared petals and long linear-clavate free points that are somewhat verrucose. The elliptic-oblong labellum is also relatively large.

**Similar species:** *Diplodium pyramidalis* has taller plants, lacks a distinct basal rosette, has darker green, smaller, narrower flowers lacking the broad, flared petals of *D. angulatum* and grows in a wet swampy habitat. In the southern parts of its range, this new species often grows with *Diplodium karri* and the taxon known as *Pterostylis* sp. crinkled leaf (*G.J. Keighery 13426*) on Florabase. It is distinguished from the former by its shorter stature, paler green and white flowers, broadly flared petals, and narrowly clubbed lateral sepals, and from the latter by larger flowers and broadly flared petals.

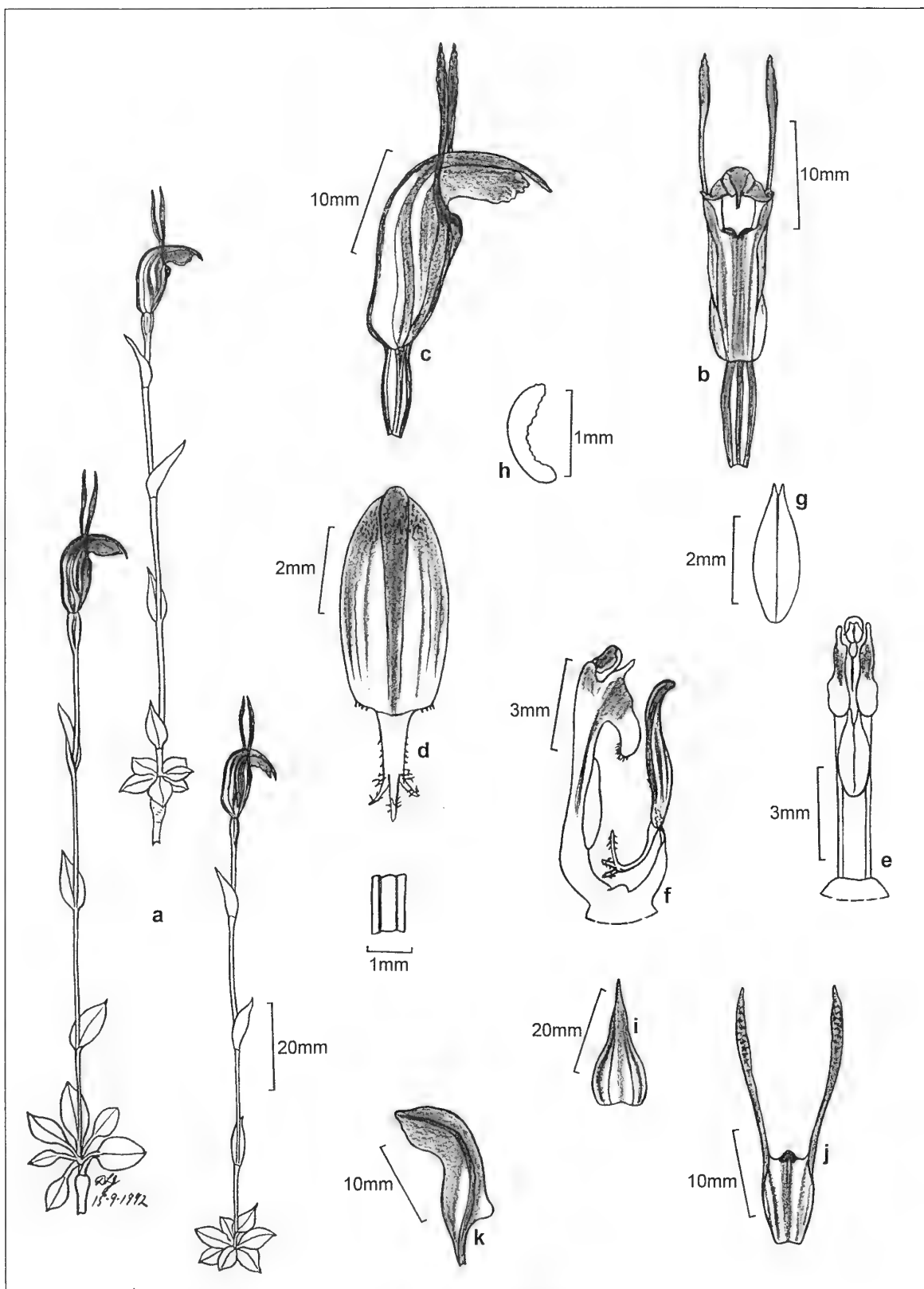
**Notes:** Florabase, the native plant database maintained by the Western Australian Herbarium (<https://florabase.dpaw.wa.gov.au>) lists the new species as *Pterostylis* sp. Helena River (*G. Brockman GBB 340*). Plants were once abundant in some locations, but are now scarce due to frequent burns. At the type location plant numbers have reduced due to earth moving disturbance.

**Conservation Status:** Common within its range and conserved in National Parks and nature reserves.

**Etymology:** The Latin *angulatus*, angular, in reference to the angular nature of the flowers.

**Other specimens:** WESTERN AUSTRALIA, Darling District: 400 m NE of Ridley-Bumper Roads junction in the Helena River area, 26 Aug. 1997, *G.Brockman (GBB 196)* (PERTH 05763142); Ridley Road, 800 m W of Yarra Road in the Dale area, 16 Sept. 1997, *G.Brockman (GBB 310)* (PERTH 05762979); Quadrat YALG05-2007 in Yalgorup National Park along the Heathlands Walk, 25 Aug. 2007, *Wildflower Soc of WA/DEC, (YALG 05-2007/99)* (PERTH 08215960); Water Authority, Ball Road, York, on river flat 2.9 km S, then E of Yarra Road, on N side of Helena River, 5 Sep 2005, *F.Hort (2610)* (PERTH 07185464); Wandoo National Park, Flynn Block, Ridley Road, York, on river flat 0.8 km W of Yarra Road, 5 Sept. 2005, *F.Hort (2609)* (PERTH 07185480); Australind, 21 Aug. 1993, *C.J French (D.L. Jones 11938)* (CBG 9707048); Corner of Johnston Rd and Old Coast Rd (Forrest Hwy), ca 50 km S of Mandurah, 28 Aug. 1993, *C.J.French (D.L.Jones 11962)* (CBG 9707072); Collie-Williams Road, 38 km from Williams-Pinjarra Road, 27 Sept. 1999, *C.J.French (CJF1939)* (CANB 624773); S side of Johnston Road, 300 m from Old Coast Road (Forrest Hwy), 26 Aug. 1995, *C.J.French (D.L.Jones 14272)* (CANB 481665); Old Coast Road (Forrest Hwy), 0.7 km N of Johnston Road, 17 Sept. 1994, *C.J.French (D.L.Jones 13329)* (CANB 664141); Ball Road off Yarra Road, 18 Sept. 1994, *C.J.French (D.L.Jones 13343)* (CANB 664150).





***Diploidium angulatum*, c. 2 km NE of Christmas Tree Well, WA, C.French (DLJ 10066). (Fig. 1.)**

a. flowering plants; b. flower from front; c. flower from side; d. labellum; e. column from front; f. column and labellum from side; g. stigma; h. pollinium; i. dorsal sepal; j. synsepalum; k. petal; l. labellum hinge.

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**2. *Diplodinium ectyphum*** D.L.Jones & C.J.French, *sp. nov.* With affinity to *Diplodinium nanum* (R.Br.) D.L.Jones & M.A.Clem. but differing by its tall habit, numerous (to 16) fleshy glossy leaves in a loose rosette or spreading up the stem and short linear-clavate free points weakly reflexed behind the galea (thin, linear, erect free points in *D. nanum*); also with *Diplodinium pyramidalis* (Lindl.) D.L.Jones & M.A.Clem. but differing by its short linear-clavate free points weakly reflexed behind the galea.

**Type:** Western Australia, Darling District. Murdoch. 31 July 1993. C.J.French (D.L.Jones 11829) (holo CANB 9706940).

**Illustrations:** Page 355, Brown, Dixon, French & Brockman (2013) – as *P. sp.* “cauline leaves” - “Murdoch Snail Orchid”.

**Description:** *Rosette* basal or leaves cauline; leaves either 5-8 in a loose rosette or all spirally arranged up the stem; lamina ovate to elliptical, glossy, 12-27 mm long, 6-15 mm wide, bright green, paler beneath, apex subacute to acute, margins entire; petioles 0-12 mm long. *Scape* 8-24 cm long, glabrous. *Stem leaves* spreading, 3-16, ovate to ovate-lanceolate, 12-27 mm long, 6-15 mm wide. *Ovary* 5-7 mm long, green, smooth. *Flower* solitary, 14-18 mm long, 4-7 mm across, translucent white with green stripes and markings, coalescent in the distal half. *Galea* gibbous at the base then erect, curving

forwards in the distal third; apex nearly flat to shallowly decurved; dorsal about as long as the petals. *Dorsal sepal* ovate-lanceolate, 18-20 mm long, 7-9 mm wide, inflated at the base then tapered, striped in the proximal half, coalescent in the distal half; apex subacute. *Lateral sepals* erect, tightly embracing the galea; sinus shallowly curved in side view, curved in near the top; nearly flat to shallowly notched in front view, the notch flanked by an area of darker green tissue; central lobe folded internally, c. 2 mm long, dark green; conjoined part 8-10 mm long, 6-7 mm wide, narrowed to c. 3 mm across at the base, the upper margins tapered suddenly into the free points; free points erect to weakly reflexed, linear clavate, 6-12 mm long, smooth. *Petals* obliquely oblong, 14-18 mm long, 4-4.5 mm wide, strongly falcate, weakly dilated near the apex, green with a narrow white central stripe, distal third darker; anterior margin entire; flange deltate, c. 2 mm across, obtuse. *Labellum* erect, curved forwards near the apex, white with green stripes in the proximal half, green in the distal half. *Labellum lamina* oblong, c. 5.5 mm long, 2.5 mm wide; lateral and basal margins shortly ciliate; apex broadly obtuse. *Callus* c. 0.4 mm across, ridged, expanding to c. 0.8 mm across near the apex; basal appendage deflexed, linear-tapered, c. 2.7 mm long, apex trilobed, sparsely ciliate, incurved. *Column* 8-10 mm long, angled away from the ovary at about 45° at the base then obliquely erect, green. *Column wings* c. 4 mm long; basal lobe c. 1.3 mm long; anterior margin curved, obtuse; inner margin and apex adorned with short white cilia; mid-section c. 1.8 mm long, green; apical lobe clavate, c. 1 mm long. *Anther* c. 1 mm long, obtuse. *Pollinia* linear, c. 1.2 mm long, falcate, mealy, yellow. *Capsule* not seen. **Fig. 2.**



*Diplodium ectyphum*  
Yalgorup  
160814





**Distribution and ecology:** Endemic in south-western WA from Gillingarra to Walpole, growing in a variety of habitats including wandoo woodland, jarrah/marri forest, tuart forest, and low coastal heath in sand, sand over limestone, sandy loam and winter-wet clay flats. *Diplodinium ectyphum* has also colonised pine forests south-east of Perth. Flowering late July – early September.

**Recognition:** Relatively tall species with robust scape, fleshy glossy green rosette leaves, numerous stem leaves and small flowers with short to mid-length thick free points on the lateral sepals.

**Similar species:** The new species has similarities to *D. angulatum* which has dark blue-green rosette leaves, taller scape, larger darker green and white flowers with an acuminate dorsal sepal, broadly flared petals, longer linear-clavate lateral sepal free points that are somewhat verrucose and a larger labellum. *Diplodinium ectyphum* has affinities with the undescribed taxon known as *Pterostylis* sp “short sepals” (page 366, Brown, Dixon, French & Brockman (2013) which has narrower scape, fewer, smaller rosette leaves, fewer stem leaves, erect, squared off lateral sepal free points and generally more northerly distribution.

**Notes:** Florabase (<https://florabase.dpaw.wa.gov.au>) lists the new species as *Pterostylis* sp. cauline leaves (N. Gibson &

M.N. Lyons 1490). When growing in open, exposed locations *Diplodinium ectyphum* has a well-formed fleshy rosette, however when growing in deeper leaf litter the stem leaves can become well separated with no apparent rosette.

**Sympatric species:** *Diplodinium ectyphum* may be found growing with *D. karri* and the taxon known as *Pterostylis* sp. crinkled leaf (G.J. Keighery 13426) on Florabase. Both are taller with longer narrow lateral sepals and extended dorsal sepal.

**Conservation Status:** Widespread and conserved.

**Etymology:** The Greek *ectyphos*, puffed up, swollen, referring to the thick free points on the lateral sepals.

**Other specimens:** WESTERN AUSTRALIA, Darling District; Julimar State Forest, Northern Boundary Road, NE of Bindoon, 4 Sept. 2010, G.Brockman (GBB 2629) (PERTH 08419892); Piara Nature Reserve, Nicholson Road, Forrestdale, 7 Aug. 1997, G.Brockman (GBB 201) (PERTH 05759846); SW corner of Plot 2 pines on Crawler Road, Mundaring district off Yarra Road, 5 Aug 1997, G.Brockman (GBB 195) (PERTH 05763347); Murdoch, 21 Aug. 1993, C.J.French (D.L.Jones 11939) (CANB 9707049); Brookton Highway, west of Christmas Tree Well, 25 Sept. 1999, C.J.French (CJF 1859) (CANB 624742); Piara Nature Reserve, Corner Mason Road and Nicholson Road, 7 Aug. 1999, C.J.French (CJF 1570) (CANB 624821).

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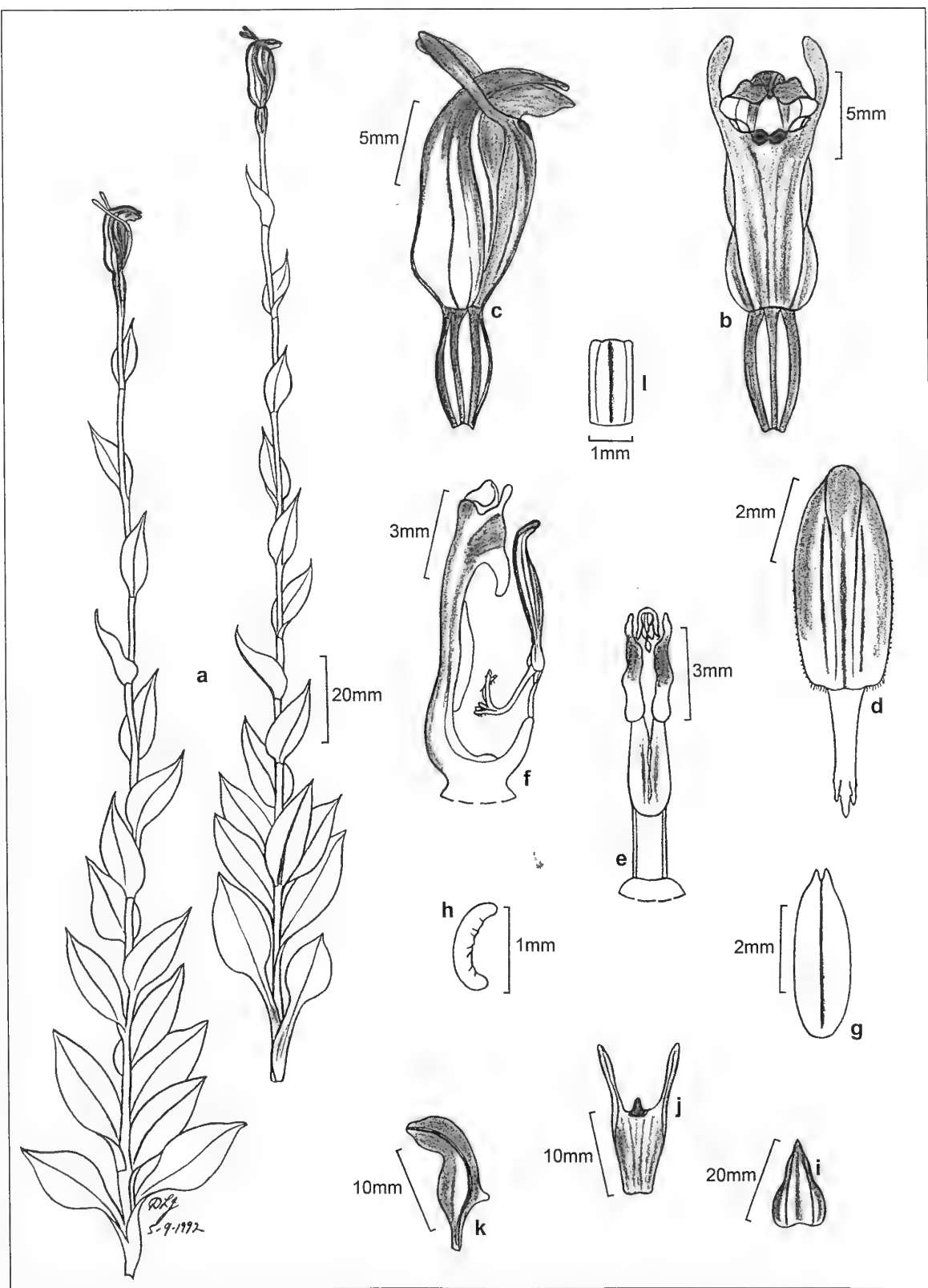
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***Diploidium ectyphum*, Murdoch, WA, C.French. (Fig. 2.)**

a. flowering plants; b. flower from front; c. flower from side; d. labellum; e. column from front; f. column and labellum from side; g. stigma; h. pollinium; i. dorsal sepal; j. synsepalum; k. petal; l. labellum hinge.

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**3. *Diplodium meridionalis* D.L.Jones & C.J.French sp. nov.** With affinity to *Diplodium nanum* (R.Br.) D.L.Jones & M.A.Clem. but differing by its fleshy rosette leaves (thin-textured in *D. nanum*), thick fleshy scape, three or four spreading ovate-lanceolate stem leaves (two in *D. nanum*), thicker free points on the lateral sepals, broadly flared petals (narrow in *D. nanum*) and the labellum margins glabrous, apart from a few hairs on the basal margins (shortly hairy labellum margins in *D. nanum*); also with *Diplodium platypetalum* but differing by its linear lateral sepal free points (clavate in *D. platypetalum*) and a glabrous scape (hairy in *D. platypetalum*).

**Type:** Western Australia. Eyre District. Wharton Beach Lookout, Duke of Orleans Bay, 18 July 1995, C.J.French (D.L.Jones 14044), (holo CANB 663796).

**Illustration:** Page 355, Brown, Dixon, French & Brockman (2013) – as *P. sp.* “Cape Le Grand” - “Southern thick-sepaled snail orchid”.

**Description:** *Rosette* basal; leaves 4-6 in a tight rosette; lamina ovate, 5-14 mm long, 3-8 mm wide, bright green, paler beneath, fleshy, acute to acuminate, entire; petioles 2-4 mm long. *Scape* 2-10 cm long, glabrous. *Stem leaves* spreading, 3-4, ovate-lanceolate, 5-16 mm long, 3-6 mm wide. *Ovary* 4-6 mm long, dark green, glabrous. *Flower* solitary, 11-15 mm long, 4.5-5.5 mm across, translucent white with dark green stripes and markings, coalescent in the distal half, sometimes lightly red in the petals. *Galea* gibbous at the base then erect, curving forwards in the distal third; apex straight or

slightly decurved; dorsal sepal slightly longer than the petals. *Dorsal sepal* ovate-lanceolate, 17-20 mm long, 7-9 mm wide, inflated at the base then tapered, striped in the proximal half, coalescent in the distal half; apex subacute. *Lateral sepals* erect, tightly embracing the galea; sinus gently curved near the top in side view; upper margins curved inwards to a shallow central notch in front view, flanked by an area of darker green tissue; central lobe folded internally, almost vestigial, dark green; conjoined part 7-9 mm long, 4.5-5.5 mm wide, narrowed to c. 2.5 mm across at the base, the upper margins tapered suddenly into the free points; free points erect, linear-clavate, 10-12 mm long, thickish, smooth, held high above the galea or sometimes weakly reflexed. *Petals* obliquely oblong, 12-14 mm long, 4-4.5 mm wide, strongly falcate, broadly dilated near the apex, green with a narrow white central stripe, distal third darker; anterior margin widely flared, smooth or weakly undulate; flange deltate, c. 2.5 mm across, obtuse. *Labellum* erect, weakly curved forwards near the apex, white with green stripes in the proximal half, green in the distal half. *Labellum lamina* elliptic-oblong, c. 4.5 mm long, 2 mm wide; lateral margins glabrous, basal margins with a few short, white cilia; apex obtuse. *Callus* c. 0.4 mm across, ridged, expanding to c. 0.5 mm across near the apex; basal appendage deflexed, tapered, c. 2 mm long, sparsely ciliate, curved up at the apex, trilobed. *Column* 7-8 mm long, angled away from the ovary at about 45° at the base then obliquely erect, light green. *Column wings* c. 2.5 mm long; basal lobe c. 0.8 mm long, at an angle of c. 70°; anterior margin curved, obtuse; inner margin and apex adorned with short white cilia; mid-section c. 1 mm long, green; apical lobe linear-tapered, c. 0.9 mm long. *Anther* c. 0.8 mm long, obtuse. *Pollinia* linear, c. 1 mm long, falcate, mealy, yellow. *Stigma* central, elliptical, c. 2.5 mm long, c. 1 mm wide, raised. *Capsule* not seen. **Fig. 3.**



**Distribution and ecology:** Endemic in south-western WA, extending from east of Duke of Orleans Bay to Stokes Inlet, west of Esperance, in a near-coastal band. Grows in moss pockets on and near granite rocks and under shrubs in moist loam along stream banks. Reported sightings from Mandalay Beach Road near Walpole and from the Stirling Ranges require further investigation. Flowering: August to mid September.

**Recognition:** Characterised by short habit, small fleshy leaves in a tight basal rosette, 3-4 spreading, ovate-lanceolate cauline leaves, relatively thick glabrous scape and proportionately large flower with thickish linear free points and an oblong-elliptic labellum with glabrous margins (apart from hairs on the basal margins and basal appendage).

**Similar species:** *Diplodium erubescens* shares some floral similarities but is well separated geographically and readily distinguished by its robust habit, lack of distinct basal rosette, hairy scape and larger more colourful flowers. *Diplodium platypetalum* has narrowly clubbed lateral sepal free points (uniformly thickened on *D. meridionalis*), hairy scape and more northerly forest/woodland habitat. On granite rocks, it is often found growing with *Diplodium voigtii* which is readily distinguished by its even shorter stature and tighter rosette of very small pointed leaves and smaller flowers.

**Notes:** Florabase (<https://florabase.dpaw.wa.gov.au>) lists the new species as *Pterostylis* sp. Cape Arid (*G. Brockman GBB 263*).

**Conservation Status:** Reasonably common and conserved.

**Etymology:** The Latin *meridionalis*, southern, referring to its distribution in the southern coastal areas of Western Australia.

**Other specimens:** WESTERN AUSTRALIA, Eyre District: Mt Belches, Duke of Orleans Bay, 18 Jul. 1995, *C.J.French* (*D.L.Jones 14046*) (CANB 663798); Orchid Hill, 20 Aug. 1997, *C.J.French* (*CJF 666*) (CANB 665495); Dunn's Rock, 20 Aug. 1997, *C.J.French* (*CJF 669*) (CANB 665497); Merivale Road, 200 m E of Thomas River Crossing, 22 Aug. 1997, *C.J.French* (*CJF 683*) (CANB 665498); Merivale Road, 100 m W of Thomas River Crossing, 22 Aug. 1997, *C.J.French* (*CJF 689*) (CANB 665500); Dunns Rock E of Esperance, 31 Aug. 2006, *G.Brockman* (*GBB 1825*) (PERTH 07511728); SE corner of Thomas River crossing Merivale Road, E of Esperance, 23 Aug. 1997, *G.Brockman* (*GBB 265*) (PERTH 05763169); Thomas River crossing Merivale Road, E of Esperance, 22 Aug. 1997, *G.Brockman* (*GBB 263*) (PERTH 05762928); W of Frenchmans Peak-Lucky Bay Road, E of Esperance, 20 Aug. 1997, *G.Brockman* (*GBB 250*) (PERTH 05762936); Lucky Bay, Cape Le Grand National Park,

8 Aug. 1982, *I.Solomon 68* (CANB); (Approx 300 m along Le Grand walk trail from Hellfire Beach. Cape Le Grand National Park, 20 Aug. 1988, *I.Solomon 118* (PERTH 06059546); Loc: 900 in Gully leading to Yerritup Creek, approx. 13 km N of coast at Stokes Inlet approx. 75 km W of Esperance, 26 Sept. 1968, *H.J. Eichler 19996* (PERTH 00283398).

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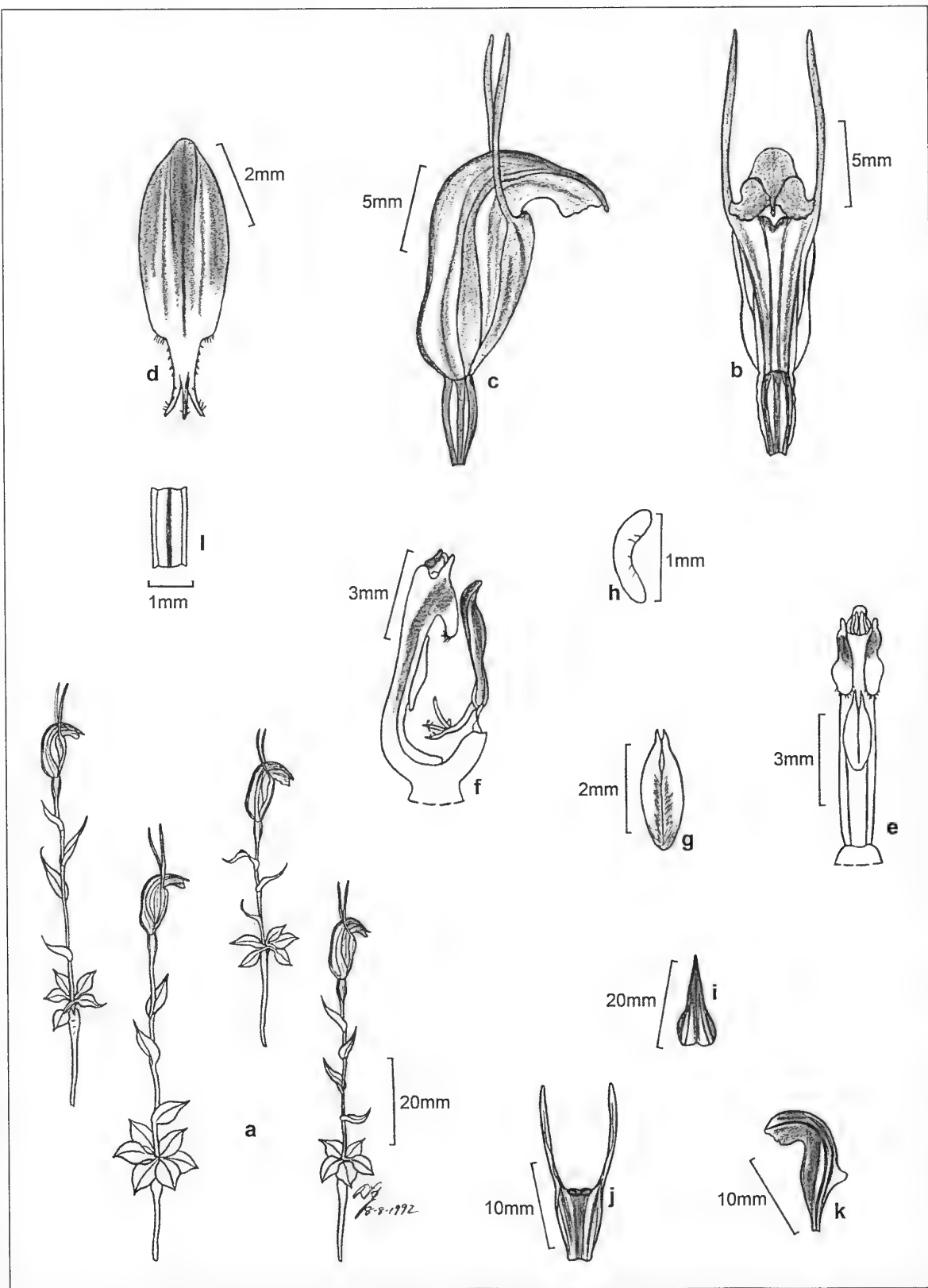
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***Diplodinium meridionalis*, Lucky Bay, Cape Le Grand, WA, I.Solomon 608. (Fig. 3.)**

a. flowering plants; b. flower from front; c. flower from side; d. labellum; e. column from front; f. column and labellum from side; g. stigma; h. pollinium; i. dorsal sepal; j. synsepalum; k. petal; l. labellum hinge.

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# Two new species of Tiny Greenhood (*Speculantha*: Orchidaceae: Pterostylidinae) from northern New South Wales

by David L. Jones and Lachlan M. Copeland

## Abstract

*Speculantha oresbia* and *Speculantha recta*, two new species with affinities to *Speculantha parviflora*, *Speculantha rubiginosa* and *Speculantha furva*, are described from northern New South Wales. Both new species are poorly known with a restricted distribution and are probably overlooked because of the small size of their flowers.

## Key Words

Orchidaceae, *Speculantha furva*, *Speculantha oresbia*, *Speculantha parviflora*, *Speculantha recta*, *Speculantha rubiginosa*, new species, conserved, vulnerable, Australian flora, New South Wales.

## Introduction

*Speculantha* consists of 21 named species and a few additional undescribed taxa distributed along the east coast of Australia from the Atherton Tableland in north-eastern Queensland to southern Victoria, Tasmania and south-eastern parts of South Australia (Jones & Clements 2002). Studies have resulted in seven species being described in recent publications (Jones & Copeland 2014, Jones 2015, Jones & Copeland 2016) and a further two are recognised here.

## Taxonomy

1. *Speculantha oresbia* D.L.Jones & L.M.Copel., *sp. nov.* With affinity to *Speculantha parviflora* (R.Br.) D.L.Jones & M.A.Clem., but differing by its thicker fleshy scape, dull green to bluish green rosette leaves (bright green in *S. parviflora*), larger red brown and white flowers (mainly green and white in *S. parviflora*) with a scabrous dorsal sepal (smooth in *S. parviflora*) and an obovate to elliptical, red to red-brown and white labellum that is not visible through the sinus in any position (labellum tip visible above the sinus in *S. parviflora* when set). It also has affinities with *Speculantha furva* D.L.Jones but differs by its paler red brown and white flowers (dark brown to blackish in *S. furva*), the area below the sinus sharply stepped inwards at the top (curved gradually inwards in *S. furva*) and an obovate to elliptical labellum (oblong with a broad square base in *S. furva*).

**Type:** New South Wales. Barrington Tops State Forest, adjacent to Sassafras Road, 29 Jan. 2006, W.M.Dowling 448 (holo CANB; iso MEL, NSW).



*Speculantha oresbia*,  
Wrights Lookout, NSW  
(LMC)

**Description:** Glabrous, tuberous, terrestrial herb. Plants 10-35 cm tall, not elongating in fruit. *Rosettes* 1-2, absent at anthesis, borne on lateral growths from the base of the scape or on sterile plants. *Rosette leaves* 3-9 per rosette, spreading; lamina ovate to elliptical-ovate, 5-22 mm long, 4-16 mm wide, dull green to bluish green; margins entire; apex acute to apiculate; petioles 2-16 mm long, slender, channelled, narrowly winged. *Scape* slender, wiry, 1-10-flowered. *Sterile bracts* sheathing or spreading and leaf-like, 2-5, ovate-lanceolate, 6-12 mm long, 3-5 mm wide, acute to acuminate. *Pedicels* 1-4 mm long, slender. *Fertile bracts* closely sheathing, linear-ovate, 3-7 mm long, 2-3.5 mm wide, acute. *Ovaries* narrowly ellipsoid, 3-5 mm long, smooth to verrucose. *Flowers* well spaced, 1-4 open at once, 8.5-11 mm long, 3.5-4.5 mm wide, green and white at base, red to red-brown towards the apex, sometimes wholly red and white, with a prominently scabrous dorsal sepal, petals and sometimes the anterior base of the synsepalum; galea inflated at the base, erect before curving forwards in a semi-circle; dorsal sepal and petals of similar length or the petals slightly longer. *Dorsal sepal* ovate-lanceolate when flattened, 12-15 mm long, 5-7 mm wide, inflated at the base then tapered to the apex, boldly striped, acute to subacute. *Lateral sepals* erect, closely embracing the galea; sinus sharply stepped inwards at the top, the area below curved when viewed from the side, flat when viewed from the front; frontal opening 3-4 mm wide; conjoined part 5-7 mm long, 4-5 mm wide, narrowed to c. 1.3 mm across at the base; free points erect or curved forwards, 1.5-3 mm long, tapered, acuminate, not reaching to the top of the galea. *Petals* broadly oblong, 8-10 mm long, 2.5-3 mm wide, strongly falcate, red to red brown with white stripes, darker on the anterior side; flange c. 1 mm across, broadly delatate, obtuse. *Labellum* erect, not visible through the sinus in any position, curved forwards near the apex, red to red-brown and white. *Labellum lamina* elliptical to obovate-elliptical, 3.5-4 mm long, 1.3-1.8 mm wide, obtuse; basal appendage decurved, 1.3-1.5 mm long, broadest at the base; apex trifid, erect. *Callus* a raised central red to red-brown ridge c. 0.6 mm across. *Column* 4.5-6 mm long, curved away from the ovary at 60° at the base then erect, red brown. *Column wings* c. 1.7 mm long; basal lobe broadly delatate, c. 0.6 mm long, c. 0.6 mm wide, red brown, at an angle of 70°; apex broadly obtuse; inner margins adorned sparsely with short, white cilia; mid-section c. 0.5 mm long, brown; apical lobe obliquely erect, filiform, c. 0.6 mm long, curved. *Anther* c. 1.2 mm long, obtuse. *Pollinia* linear, c. 1.3 mm long, yellow, mealy. *Stigma* situated below the centre, scutiform, c. 2 mm long, c. 1.5 mm wide, raised. *Capsules* erect, narrowly ovoid to ellipsoid, 7-10 mm long, 3-4 mm wide, smooth. **Fig. 1.**

**Distribution:** Known from several higher areas of the New South Wales Northern Tablelands including Mt Kaputar, Point Lookout, Werrikimbe National Park and the Barrington Tops.

**Habitat:** It grows in montane forest and woodland with a shrubby or tussock grass understorey. The orchid plants grow in exposed sites and also colonise disturbed areas after logging

as well as road verges. Soils are shallow clay loams, sometimes rocky or stony, and gravelly loams developed on volcanics. Alt. 1,000-1,250 m.

**Flowering period:** December to February.

**Recognition:** Characterised by summer flowering period; rosettes appearing late in anthesis or after anthesis; dull green to bluish green rosette leaves (to 22 x 16 mm); tall, sturdy scape; sheathing or foliose sterile bracts; 1-10-flowered inflorescence; well-spaced, plump flowers, 8.5-11 x 3.5-4.5 mm, green and white at base, red to red-brown towards the apex, sometimes wholly red and white; scabrous dorsal sepal; sinus sharply stepped inwards, flat with a medial notch when viewed from the front, the area below curved when viewed from the side; tapered free points that do not reach the top of the galea; and, an elliptical to obovate-elliptical, red to red-brown and white labellum, 3.5-4 x 1.3-1.8 mm, the tip not visible from the exterior in any position.

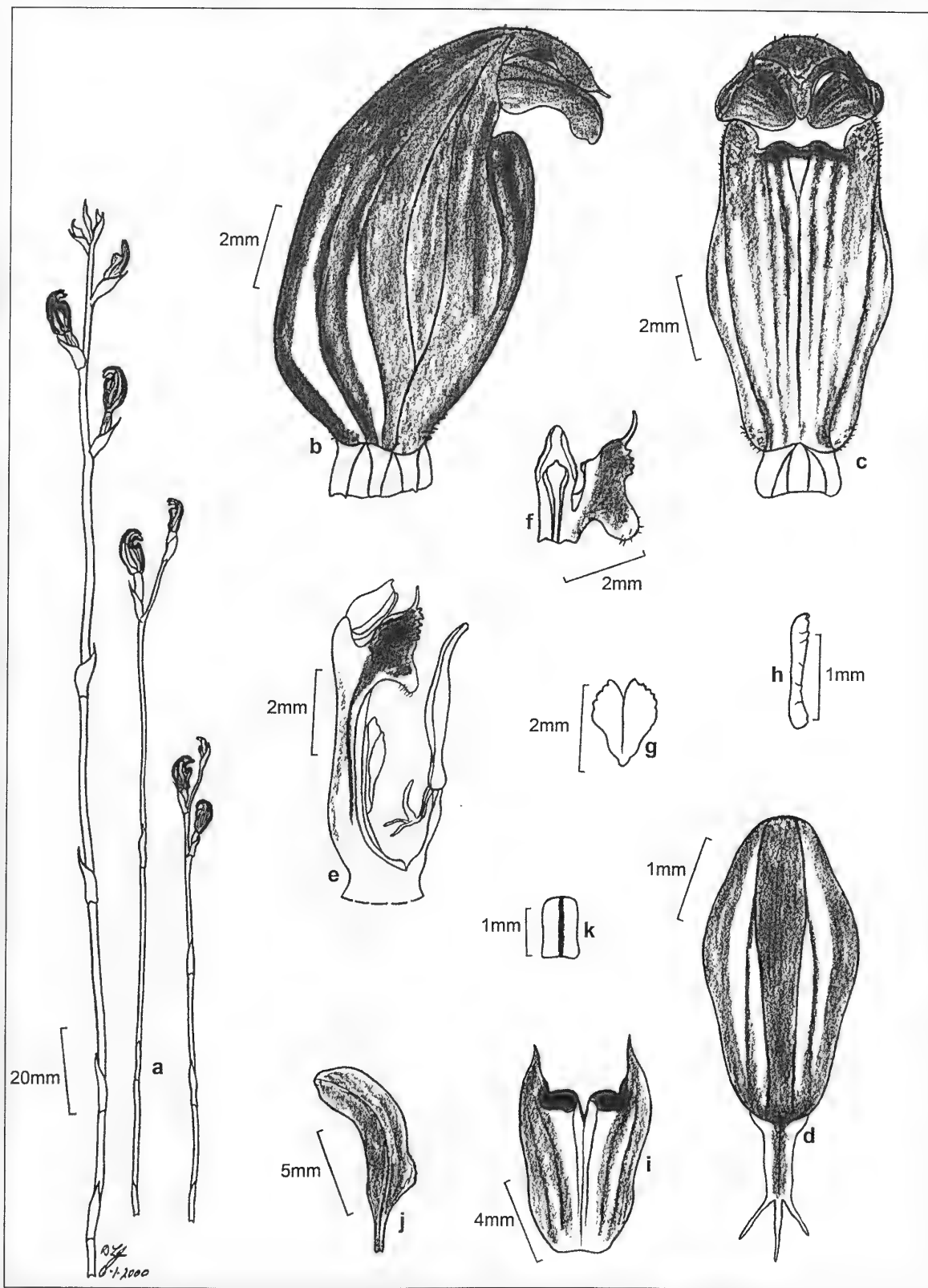


*Specularia oresbia*,  
Wrights Lookout, NSW  
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***Speculantha oresbia*, Gloucester Tops, NSW, W.Dowling 100. (Fig. 1.)**

a. flowering plants; b. flower from side; c. flower from front; d. labellum; e. column and labellum from side; f. top of column from front; g. stigma; h. pollinium; i. synsepalum; j. petal; k. labellum hinge.

© D.L.Jones 6 January 2000.



**Similar species:** *Speculantha oresbia* is a distinctive species which shares some similarities with *S. recta* and *S. furva*, both from much lower altitudes than *S. oresbia*. *Speculantha furva*, from coastal areas of south-eastern New South Wales, is most similar sharing the sturdy scape and relatively broad, somewhat crowded flowers with *S. oresbia*, but its flowers are much darker brown to blackish, the dorsal sepal prominently scabrous, the area below the sinus curving inwards (not sharply stepped) and the labellum oblong with a broad, square base. *Speculantha recta* grows taller with very slender scapes, narrower, angular, bright red and white or red brown and white flowers and a narrowly elliptical to narrowly oblong-elliptical labellum. *Speculantha rubiginosa* is a late spring-early summer-flowering species (November to early December) from a small area at Dorriggo which has thinner wiry scapes, smaller (especially narrower), widely spaced brighter red-brown flowers with V-shaped frontal opening on the sinus and a narrower oblong-elliptical labellum. *Speculantha amabilis* can be immediately distinguished by

its much larger bright red to bright reddish brown and white flowers.

**Conservation status:** Restricted but sometimes locally common and well conserved.

**Etymology:** The Greek *oresbios*, mountain-dwelling, in reference to the high altitude montane habitat of this species.

**Other specimens:** NEW SOUTH WALES: Grass Tree Picnic area, 31 Dec. 1995, C.Bower (D.L.Jones 13795) (CANB); Barrington Tops Natl. Park, Saxby Swamp, 1 Feb. 1998, W.Dowling (ORG 1249) (CANB); Gloucester Tops, Barrington Tops Natl. Park, 30 Dec. 1999, W.Dowling 100, 101, 102 (CANB); *ibid*, 16 Dec. 2000, W.Dowling 159, 164 (CANB); *ibid*, 1 Feb. 2004, W.Dowling 397 (CANB); O'Gradys Plateau, Barrington Tops, 7 Jan. 1959, R.Filson 1430 (MEL); Werrikimbe National Park, c. 5 km E of Forbes River crossing, beside Hastings Forest Way, 20 Jan. 1987, D.L.Jones 2553, L.Barton & T.D.Jones (CANB); Barrington Tops, Jan. 1928, H.M.R.Rupp (MEL, NSW); Mt Kaputar, 8 Feb. 1986, R.Tunstall (CANB).

## 2. *Speculantha recta* D.L.Jones & L.M.Copel., *sp. nov.*

With affinity to *Speculantha parviflora* (R.Br.) D.L.Jones & M.A.Clem., but growing taller with narrower, angular crowded flowers that are green and white at the base with a bright red to red brown apex, warty ovaries (smooth in *S. parviflora*), scabrous dorsal sepal (smooth in *S. parviflora*); and a red-brown and white labellum that is not visible through the sinus in any position (labellum tip visible above the sinus in *S. parviflora* when set). It also has affinities with *Speculantha furva* D.L.Jones but differs by its more widely spaced, smaller and more brightly coloured angular flowers (crowded, rounded and dark brown to blackish in *S. furva*) and a narrower elliptical labellum (oblong with a broad square base in *S. furva*).

**Type:** New South Wales. Purgatory Road, E of Stroud [Myall Lakes National Park], 18 March 2004, W.M.Dowling 402 (holo CANB; iso MEL, NSW).

**Description:** Glabrous, tuberous, terrestrial herb. Plants 10-45 cm tall, not elongating in fruit. Rosettes absent at anthesis, usually 1, borne on a lateral growth from the base of the scape or on sterile plants. Rosette leaves 3-7 per rosette, spreading; lamina ovate to elliptical-ovate, 5-16 mm long, 4-14 mm wide, dull green; margins entire or irregularly crinkled; apex acute to acuminate; petioles 2-8 mm long, slender, narrowly winged. Scape slender, wiry, 1-12-flowered. Sterile bracts sheathing or spreading and leaf-like, 2-5, ovate-lanceolate, 6-13 mm long, 3-5 mm wide, acute to acuminate. Pedicels 1-3 mm long, slender. Fertile bracts closely sheathing, linear-ovate, 3-8 mm long, 2-3.5 mm wide, acute. Ovaries narrowly ellipsoid, 3-5 mm long, verrucose. Flowers well spaced, 1-4 open at once, angular, 8-10 mm long, 2.7-3.3 mm wide, green and white at base, bright red to red-brown towards the apex, sometimes wholly red and white, with a prominently scabrous dorsal sepal; galea inflated at the base, erect before curving forwards in an elongated semi-circle; dorsal sepal and petals of similar length, the distal part of the dorsal sepal scabrous. Dorsal sepal narrowly ovate-lanceolate when flattened, 11-14 mm long, 4-5 mm wide, inflated at the base then tapered to the apex, boldly striped, scabrous, acute to subacute. Lateral sepals erect, closely embracing the galea; sinus curved sharply inwards, the area below sloping gently to the ovary when viewed from the side, flat when viewed from the front; frontal opening c. 2.5 mm wide; conjoined part 4-5 mm long, 3-4 mm wide, narrowed to c. 1.6 mm across at the base; free points erect or curved forwards, 1.5-2 mm long, tapered, acuminate, not reaching to the top of the galea. Petals oblong, 8-10 mm long, c. 2 mm wide, falcate, red to red



*Speculantha recta*,  
Broken Bay, NSW  
(LMC)



brown with white stripes, darker towards the apex; flange c. 1 mm across, broadly deltate, obtuse. *Labellum* erect, not visible through the sinus in any position, curved forwards near the apex, red to red-brown and white. *Labellum lamina* narrowly elliptical to narrowly oblong-elliptical, 3-3.5 mm long, 1-1.3 mm wide, obtuse; basal appendage decurved, c. 0.8 mm long, broadest at the base; apex trifid, erect. *Callus* a raised central red to red-brown ridge c. 0.3 mm across. *Column* 5-6 mm long, curved away from the ovary at 60° at the base then erect, red brown. *Column wings* c. 1.5 mm long; basal lobe broadly deltate, c. 0.8 mm long, c. 0.6 mm wide, red brown, at an angle of 50°; apex broadly obtuse; inner margins adorned sparsely with short, white cilia; mid-section c. 0.5 mm long, brown; apical lobe obliquely erect, filiform, c. 0.6 mm long, curved. *Anther* c. 1 mm long, obtuse. *Pollinia* linear, c. 1.3 mm long, yellow, mealy. *Stigma* situated below the centre, scutiform, c. 1.5 mm long, c. 1.3 mm wide, raised. *Capsules* erect, narrowly ovoid to ellipsoid, 7-9 mm long, 3-4 mm wide, verrucose. **Fig. 2.**

**Distribution:** Currently known from three populations in northern New South Wales in the Wauchope, Stroud and Cessnock districts, but possibly more widespread.

**Habitat:** It grows in tall forest dominated by *Eucalyptus camenoides* and *Corymbia maculata* with a shrubby or heathy understorey. The orchid plants grow in open grassy sites and also colonise road verges. Flowering is greatly reduced in overgrown situations and appears to be stimulated by fires, certainly in the second and third years after a burn. Soils are shallow clay loams. Alt. 30-300 m.

**Flowering period:** March to May.

**Recognition:** Characterised by autumn-winter flowering period; rosettes appearing after anthesis; dull green rosette leaves (to 16 x 14 mm); tall, wiry scape; sheathing sterile bracts; 1-12-flowered inflorescence; verrucose ovaries; well-spaced, narrow, angular flowers, 8-10 x 2.7-3.3 mm, green and white at base, bright red to red-brown towards the apex, sometimes wholly red and white; scabrous dorsal sepal; sinus sharply curved inwards, flat with a medial notch when viewed from the front, the area below sloping gently when viewed from the side; tapered free points that do not reach the top of the galea; and, a narrowly elliptical to narrowly oblong-elliptical, red to red-brown and white labellum, 3-3.5 x 1-1.3 mm, the tip not visible from the exterior in any position.

**Similar species:** *Speculantha recta* is a very distinctive species which shares some similarities with *S. furva* from southern New South Wales. The latter species however has broader, dark brown to blackish flowers more crowded in the raceme and with a broader, oblong labellum. Geographically

*S. recta* is located nearest to *S. oresbia* which grows in high montane habitats and has thicker scapes, more crowded, larger (especially wider), darker flowers with a broader elliptical to obovate labellum. *Speculantha rubiginosa* is a late spring-early summer-flowering species (November to early December) from a small localised area at Dorrigo which is shorter growing with smaller, brighter red-brown flowers, shorter, broader sparsely scabrous dorsal sepal with an acute apex, scabrous lateral sepals and petals and a V-shaped frontal opening on the sinus. *Speculantha amabilis* can be immediately distinguished by its much larger bright red to bright reddish brown and white flowers.

**Notes:** A poorly known taxon with similar features to *S. recta* occurs in the Whian Whian State Forest south of Murwillumbah. This species requires further study.

**Conservation Status:** Relatively widespread but poorly collected and conserved in Myall Lakes National Park; suggest 3KCi by the criteria of Briggs & Leigh (1996).

**Etymology:** The Latin *rectus*, straight, erect, upright, in reference to the stiffly erect inflorescences.

**Other specimens:** NEW SOUTH WALES: Mt View, Cessnock, 28 Apr. 2006, *C. Driscoll* (ORG 5189) (CANB); Broken Bago State Forest, 2.9 km along Paddock Road from Wauchope Cemetery, 3 Apr. 2006, *J. Riley* (ORG 5185) (CANB).

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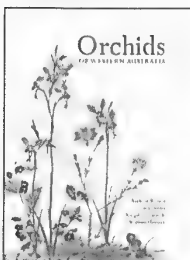
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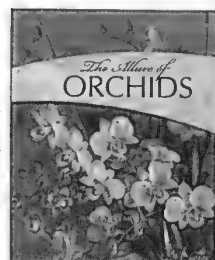
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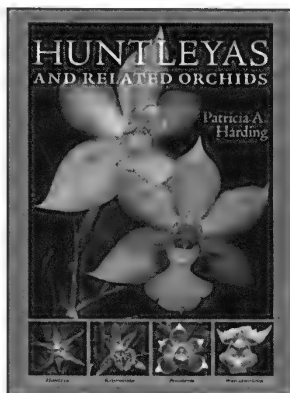
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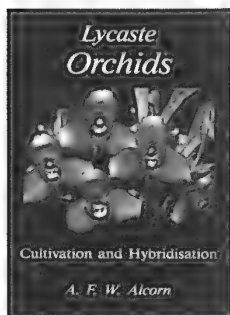
## HUNTLEYS AND RELATED ORCHIDS by Patricia A. Harding

Revered by avid orchid collectors for its delightful, star-shaped flowers, *Huntleya* is a small group of orchids found low in the forest. *Huntleya* is a small orchid genus that includes fourteen species. They occur in wet cloud forests at medium altitudes of Guatemala, Costa Rica, South America down to Bolivia. The type species *Huntleya meleagris* also occurs in Trinidad. Besides their striking colours — from deep blue to waxy red, royal purple to almost black — flowers of this group are known for their distinctive shapes, patterns, and textures. As appealing as these lovely tropical orchids are, their identification has been

confused since the first species was described in the mid-1800s. Recent DNA studies have led to a clearer understanding of relationships and, as a result of this clarity, it is now possible to sort out the taxonomic problems and identify the characteristics that set species apart. In this first book devoted to the *Huntleya* alliance, author Patricia Harding presents evidence from the scientific literature, other growers, and her own experience that will enable orchid enthusiasts everywhere to identify their plants and grow them successfully. Patricia A. Harding is an accredited American Orchid Society judge who has been growing and photographing orchids for three decades.

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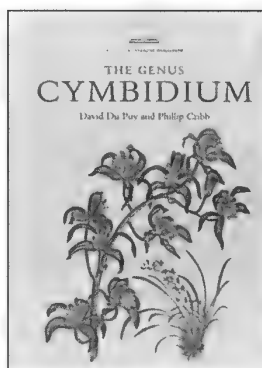
## LYCASTE ORCHIDS - Cultivation and Hybridisation by A.F.W. Alcorn

Lycaste orchids are easy to grow, and they produce flowers that range from the beautiful to the bizarre. No book previously has provided detailed cultural requirements of the Lycaste, and this book should fill that gap, and encourage new growers to take up the cultivation of this beautiful genus. A section on hybridising contains valuable information on inheritance and genetics that will benefit any hybridiser, not just the grower of Lycastes, as well as helpful hints on how to avoid pitfalls in your hybridising program. Michael Hallett, a friend of

Fred Alcorn for a number of years, co-wrote this book with Fred and has completed it posthumously. He has a background in genetics, research and botany, and a passion for plants, especially orchids.

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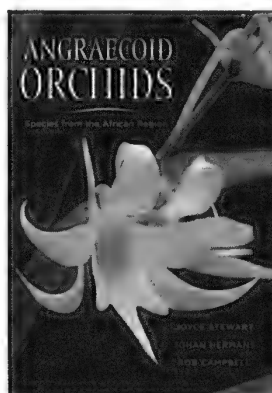
## THE GENUS CYMBIDIUM

**by David Du Puy  
and Phillip Cribb**

Second edition (2007). Full taxonomic accounts of all 52 species of *Cymbidium*, including distribution, maps, colour photographs, line drawings and colour paintings. Taxonomic key. Detailed conservation assessment of *Cymbidium*. Cultivation chapter and breeding chapters as well as chapters covering history, morphology, seed morphology, anatomy, cytology, pollination, uses and phylogeny.

**369 pages, colour photographs, line drawings, maps. Small quarto, dustwrapper.**

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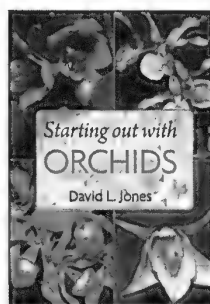
## ANGRAECOID ORCHIDS: Species from the African Region by Joyce Stewart, Johan Hermans, and Bob Campbell

These so-called 'Jewels of Africa' with their sparkling flowers, distinctive growth habit and floriferous nature are much prized and this account, the first to include the Angraecoid orchids of both Africa and Madagascar, is long awaited. It brings together, in a single volume, descriptions of all 690 species in this intriguing group of orchids and will be the essential reference for all Angraecoid orchid enthusiasts for years to come. Including such horticulturally

important genera as *Angraecum*, *Aeranthus*, *Aerangis* and *Jumellea*. Stewart, Herman and Campbell have all spent time in various parts of eastern and southern Africa and precise ecological information relating to habitat, altitude preferences and flowering season of individual plants will be particularly helpful to growers. The diagnostic features of each genus are illustrated and over half the species are accompanied by exquisite photographs taken in both wild habitats and in cultivation.

**432 pages, 290 colour photos. 185mm x 265mm. Hardcover.**

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## STARTING OUT WITH ORCHIDS by David L. Jones

David Jones is arguably one of Australia's most prolific, precise and respected botanical and horticultural authors. The book is divided in two parts. Part One begins with the cultivation chapters, covering Easy Orchids for Beginners, General Cultivation Requirements, Growing Epiphytic Orchids, Growing Terrestrial Orchids, Orchid Pests and Diseases, Housing Your Orchids and Propagating Your Orchids. The information contained within these pages alone is required reading for all beginners though to experienced orchid growers. The text is very easy to read and understand with numerous sound cultivation tips and treatments discussed. There are many excellent and clear line illustrations that help describe terms or highlight diagnostic features. There are over 250 colour photographs.

Part Two discusses the orchids themselves with concise information on each species. They are grouped primarily according to climatic requirements, starting with cool growing orchids progressing to the warm growers, in alphabetical sequence first with terrestrial genera, followed by the epiphytes. Both Australian and exotic species are treated together. For each entry there is specific detailed information on each species, as well as a simple table giving the basic cultivation needs and flowering season. A glossary is also included to explain unfamiliar terms.

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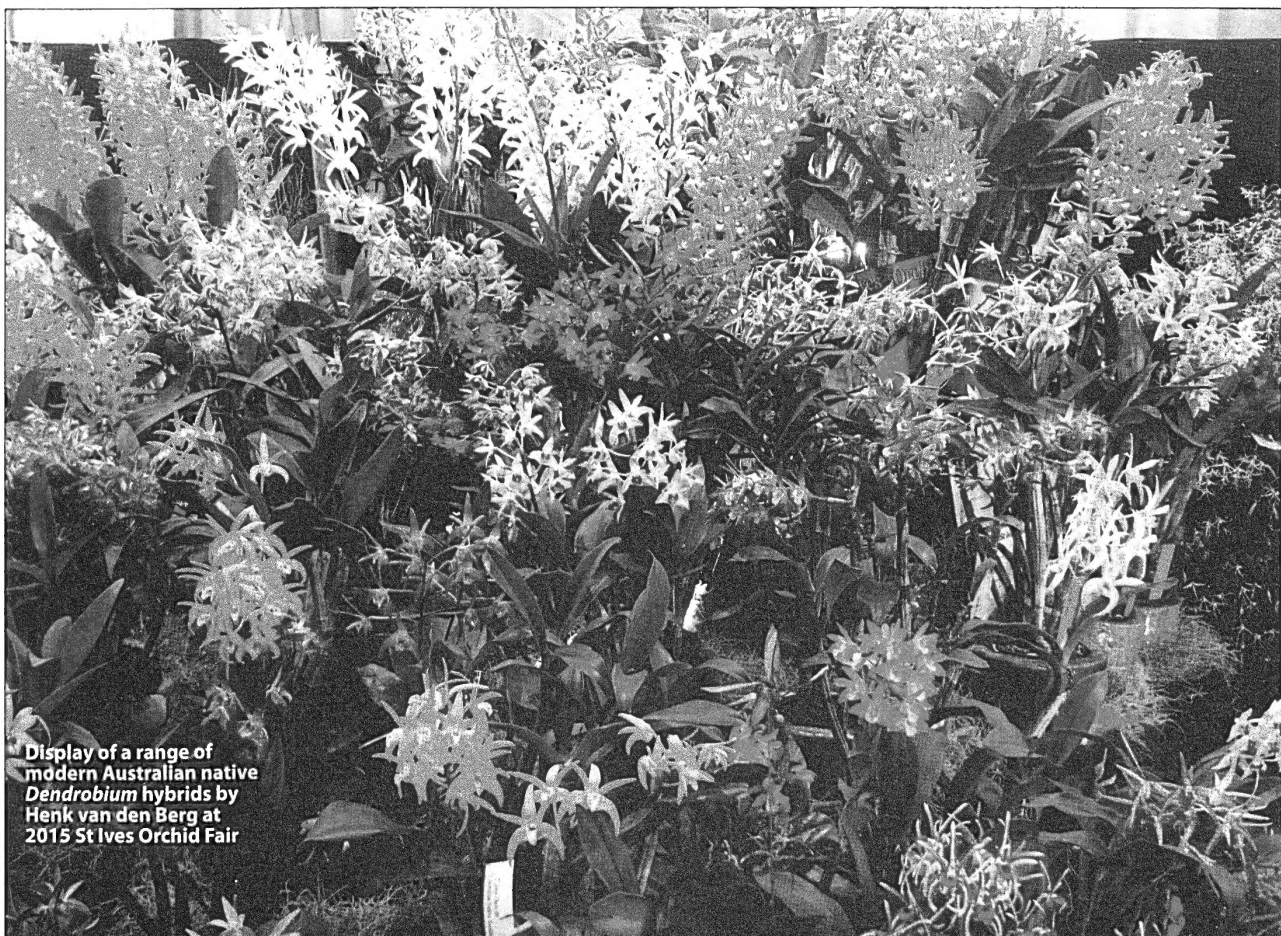
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*Laeliocattleya* Clar Hancock  
(Garrie & Lesley Bromley)  
in North Shore Orchid  
Society display at  
2015 St Ives Orchid Fair.



Display of a range of  
modern Australian native  
*Dendrobium* hybrids by  
Henk van den Berg at  
2015 St Ives Orchid Fair



# 2017 ORCHID EVENTS – *What's on!*

## August 5-6 WA Orchid Spectacular

– Perth, WA

## August 18-20 St. Ives Orchid Fair

– NSW

## August 25-27 Melbourne Orchid Spectacular

– KCC Park, 655 Westernport Highway, Skye, VIC

## September 9 Bellingen Plant Fair

– Bellingen, NSW

## September 16-17 Port Macquarie Orchid Show

– NSW

## September 24 Hills District Orchids

– Spring Open Day

– Northmead, NSW

## October 6-8 Southern Orchid Spectacular

– Cronulla, NSW

## November 4-5 Tweed District Orchid Fair

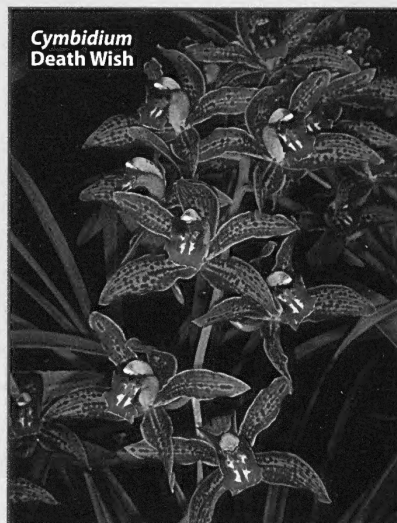
– Tweed Heads, NSW

## December 3 Hills District Orchids

– Summer Open Day

– Northmead, NSW

**Cymbidium  
Death Wish**



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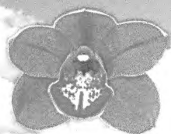
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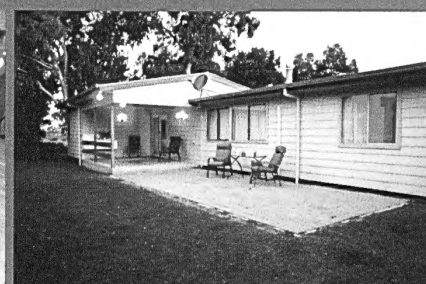
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Saturday 26 August	9 am – 4 pm
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Collectors Corner

